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**School of Social Work  
Virginia Commonwealth University**

This is to certify that the dissertation prepared by Natsuko Ryosho entitled “Job and Personal Resources and Demands: The Effects on Job Satisfaction and Job Search Behavior of Certified Nursing Assistants (CNAs) Working in Nursing Homes” has been approved by her committee as satisfactory completion of the requirement for the degree of Doctor of Philosophy.

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April 26, 2010

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Job and Personal Resources and Demands: The Effects on Job Satisfaction and Job Search  
Behavior of Certified Nursing Assistants (CNAs) Working in Nursing Homes

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of  
Philosophy at Virginia Commonwealth University.

by

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## Terminology

Nursing homes	Nursing homes, also called Skilled Nursing Facilities (SNF) provide a wide range of services, including nursing care, 24-hour supervision, assistance with ADLs, and rehabilitation services such as physical, occupational, and speech therapy (DHHS, 2008).
Nursing assistants (NAs)	NAs, nursing aides, or nurse aides employed in nursing homes provide direct care under the supervision of nursing and medical staff. Their specific tasks and responsibilities vary in each state and facility, but generally include assisting residents with ADLs. They also sometimes take resident's temperature, pulse rate, respiration rate, or blood pressure and assist other medical staff by setting up equipment and storing and moving supplies.
Certified nursing assistants (CNAs)	CNAs are NAs who completed a federally required, minimum of 75 hours of state-approved training and who successfully passed a competency evaluation. NAs who work in Medicare and Medicaid certified nursing homes must be or become CNAs within four months of employment (Bureau of Labor Statistics, 2007).
Job satisfaction	In this study, job satisfaction is defined as “the extent to which employees like their work” (Price, 2001, p. 600). A worker feels satisfaction with his or her job when it fulfills the important values that are congruent with his or her needs (Locke, 1976).
Job commitment	Job commitment is “an attitude or an orientation toward the job that links or attaches the identity of the person to the job” (Chusmir, 1982, p. 596).
Intent to stay	Intent to stay means “extent to which an employee plans to continue membership with his/her employer” and job search behavior means “degree to which an employee is looking for another job” (Kim, Price, Mueller, & Watson, 1996, p. 951).

## Abstract

### JOB AND PERSONAL RESOURCES AND DEMANDS: THE EFFECTS ON JOB SATISFACTION AND JOB SEARCH BEHAVIOR OF CERTIFIED NURSING ASSISTANTS (CNAS) WORKING IN NURSING HOMES

By Natsuko Ryosho, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2010.

Major Director: Dr. F. Ellen Netting, Professor, School of Social Work

The purpose of the current study was to examine how job resources, job demands, personal resource, personal demands, and demographic characteristics predict job satisfaction and job search behavior of certified nursing assistants (CNAs) working in nursing homes. The study used data from the 2004 National Nursing Assistant Survey (NNAS). The job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) provided the basis for the conceptual framework of the study. First, a series of multinomial logistic regression analyses were performed to determine how the five categories of predictor variables predicted the levels of job satisfaction among CNAs. Next, a series of binary logistic regressions was used to assess the effects of the predictor variables on job search behavior. Lastly, binary logistic regression was used to examine the effect of job satisfaction on job search behavior, controlling for other predictor variables.

Findings indicated that job resource variables related to positive administrative climate,

opportunity for self-advancement, supportive supervisory practices, peer support, and positive interactions with residents predicted job satisfaction. Among job demand variables, lack of perceived respect and physical demands significantly and negatively predicted job satisfaction. In the job search behavior model, CNAs who reported respectful administrative climate, opportunity for self-advancement, and supervisor quality were less likely to search for a new job. Among job demand variables, perceived lack of respect/appreciation for work, perceived racial/ethnic discrimination, and problems with scheduling predicted job search behavior. When the job satisfaction variable was entered into the final job search behavior model, two variables became insignificant: supervisor quality and perceived lack of respect/appreciation for work. In the final model, job satisfaction had the strongest explanatory power of job search behavior. The findings of this study did not support the role of personal resources and demands in determining job attitudes and behavior of CNAs working in nursing homes. Research, education, policy, and practice implications are addressed.

## CHAPTER I

### PROBLEM STATEMENT

#### Overview of the Research Problem

Despite the trend in a shift toward community-based services, institutional care continues to be an important long-term care option for people who need extensive care (Bishop, 1999). In 2004, approximately 1.5 million people received care in nursing homes across the United States. Of them, 45.2% were aged 85 years and older and 51.1% received assistance in all five Activities of Daily Living (ADLs), including bathing, dressing, toileting, transferring, and eating (Jones, Dwyer, Bercovitz, & Strahan, 2009).

The majority of direct, day-to-day care in nursing homes is provided by certified nursing assistants (CNAs) who account for nearly 65% of all nursing staff employed in nursing homes (Jones et al., 2009). Not only do CNAs provide physical care, but they also respond to social and affective needs of residents through their daily interactions. Given the significance of their roles in influencing the quality of life of particularly vulnerable individuals, CNAs are often described as the key players in this arena and as the backbone of long-term care (Squillace, Remsburg, Bercovitz, Rosenoff, & Branden, 2006).

#### *CNA Turnover*

In recent decades, there has been a consistent and growing concern about the extremely high turnover rate among CNAs. In general, staff turnover rates in excess of 50% are considered to be a problem for the effective operation of nursing home facilities (Wagnild, 1988). However,

a national survey conducted in 2002 found an average annual turnover rate among CNAs to be over 70%. In 20% of states, CNA turnover rates exceeded 100% and overall, there were nearly 52,000 vacant CNA positions (Decker, Gruhn, Matthews-Martin, Dollard, Tucker, & Bizette, 2003). A survey conducted in 2000 found that over 91% of 5,000 facilities from 10 states had nurse aide staffing below the minimal levels identified to provide all the necessary care (Abt Associates, 2001). In 2004, 76% of 38 states indicated that the shortage of direct care workers is a serious workforce issue (Harmuth & Dyson, 2005).

This crisis situation of the direct care workforce is expected to be worse as the American population ages. The total number of individuals who need long-term care is projected to more than double from 13 million in 2000 to 27 million in 2050 (Department of Health and Human Services [DHHS], 2003). The demand for direct care workers greatly exceeds the nationally projected growth in overall employment (Harmuth & Dyson, 2005). The population of women between the ages of 25 and 54, who traditionally provide informal and formal care, is expected to grow by less than 1% over the next 30 years (Paraprofessional Healthcare Institute, 2008). In addition, changes in family structure due to increased workforce participation of women, both declining birth and marriage rates, and rising divorce rates could result in a reduced future availability of informal caregivers and thus more demand for formal care (Joint Legislative Audit and Review Commission, 2006). Changes in the educational level of minority women, who comprise 35% of direct care workers (Potter, Churilla, & Smith, 2006), will also likely have an impact on the recruitment efforts in this field. As these women have started achieving higher levels of education, they will have more employment opportunities and no longer be willing to accept the same low wage, unskilled jobs that were the only option available to the previous generation (Bureau of Health Professions, 2004).

### *Impact on Stakeholders*

High turnover and inadequate staffing adversely affect job performance of CNAs and threaten resident safety, comfort, and hygiene. When understaffed, CNAs must assume added responsibilities and provide care for a greater number of residents in the same amount of time. In some facilities, they have to bear severely unrealistic workloads, taking care of as many as 24 residents a shift (Crickmer, 2005). Such labor-intensive conditions create a large gap between what is demanded of CNAs and what they are physically capable of doing. In order to complete their tasks, CNAs often work without taking scheduled breaks and do overtime. Physical and emotional pressures CNAs experience likely affect their approach and care to residents. Many of them adopt time-saving strategies such as eliminating time-consuming personal care and providing only standardized, minimal basic care (Bowers, Esmond, & Jacobson, 2000). One study found that compared to residents in high staffed homes where CNAs had lower care loads, those in lower staffed homes spent significantly less time out of bed during the day, had physical movement patterns reflecting limited exercise, received less frequent feeding and toileting assistance, and were repositioned less frequently. In understaffed homes, social interactions between residents and staff were also limited (Schnelle, Simmons, Harrington, Cadogan, Garcia, & Bates-Jensen, 2004). Moreover, high turnover and frequent staff changes create the instability of the environment and inconsistency in care (Kiyak, Namazi, & Kahana, 1997). Lack of familiarity and trust between residents and CNAs interfere with the development of a caring relationship needed for quality care, consequently leading to negative physical and emotional outcomes (Bowers et al., 2000).

In addition, the high economical costs associated with turnover have a serious impact on the operations of programs and services in nursing homes. Shortages of workers mean decreased



productivity, service volume, and profits. Facilities also have to bear the extra expenses incurred by separation, recruitment, and orientation of new workers (Bureau of Health Professions, 2004). A total cost associated with each instance of turnover is estimated to be at least \$2,500 (Seavey, 2004). Cost-cutting efforts of facilities to retrieve this economical loss may result in worsening working conditions for their employees such as tightened schedules and insufficient resources, further increasing their likelihood of leaving the job. Thus, there is a vicious cycle of short staffing, low quality care, and increased turnover that affects every individual and group involved in nursing home care.

### Study Rationale

Previous studies have identified that job behaviors of CNAs are affected by various personal characteristics (e.g., age, education level, gender, race, length of employment) and organizational conditions (e.g., staffing levels, facility quality, bed size, supervision, and work scheduling) (Bishop, Weinsberg, Leutz, Dossa, Pfefferle, & Zincavage, 2008; Castle & Engberg, 2006; Grau, Chandler, Burton, & Kolditz, 1991; Karsh, Booske, & Sainfort, 2005; Kiyak et al., 1997). Specifically the level of job satisfaction has been found to be one of the most consistent and significant factors influencing CNA job retention and quality of care (Castle, Engberg, Anderson, & Men, 2007; Grau et al., 1991; Karsh et al., 2005, Parsons, Simmons, Penn, & Furlough, 2003). That is, CNAs who are dissatisfied with their jobs are more likely to think about leaving and searching for new jobs than those who are satisfied with their jobs (Castle et al., 2007). Although actual turnover may be affected by various other factors such as the availability of alternative jobs, unhappy workers who begrudgingly stay may become less caring and unable to provide satisfactory care. In fact, Bishop and colleagues (2008) found that CNAs' intentions to stay in their jobs were positively associated with residents' satisfaction with their

relationships to nursing staff and their quality of life.

Gaining a clear understanding of the specific factors influencing CNAs' job commitment is critically important for planning effective strategies for promoting job retention, and consequently improving care quality in nursing homes. However, previous such efforts have been limited by small sample size and unrepresentative data. Most studies conducted in this area have used only facility-level data or small samples of CNAs from a limited number of facilities or states (Stearns & D'Arcy, 2008). In addition, some studies reported aggregated data collected from all nursing home staff, even though the needs and preferences of CNAs might be different from those in administrative and supervisory positions (Castle et al., 2007). Thus, the purpose of this study was to expand current knowledge about factors influencing CNAs' job satisfaction and retention by using a nationally representative data drawn from the 2004 National Nursing Assistant Survey (NNAS). The NNAS is the first national probability sample survey that focused specifically on the perspectives of CNAs employed in nursing homes. With the goal of providing an evidence-based resource for initiatives addressing the CNA workforce shortage issues, the survey investigated various personal and organizational factors possibly contributing to CNAs' career choice, job satisfaction, and commitment. The NNAS data were collected from the sample of 3,017 CNAs, and when weighted, represents 702,500 CNAs across the United States (Squillace et al., 2006).

Using the NNAS data, the current study investigated job resources, job demands, personal resources, and personal demands perceived by CNAs and their effects on job satisfaction and job search behavior. The job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) provided the basis for the conceptual framework of the study. The JD-R model proposes, regardless of the type of job, the psychosocial characteristics

of the work environment can be classified into two broad categories: job demands and job resources. Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological effort and are therefore associated with certain physiological or psychological costs. Examples of job demands are high work pressure, an unfavorable physical environment, and emotionally demanding interactions with clients. On the other hand, job resources refer to the physical, psychological, social, or organizational aspects of the job that: are functional in achieving work-related goals; reduce job demands and the associated physiological and psychological costs; and stimulate personal growth, learning, and development. Job resources may be available at the organizational level (e.g., pay, career opportunities, job security), in the interpersonal and social relations (e.g., supervisor and coworker support), in the organization of work (e.g., role clarity, participation in decision making), and at the task level (e.g., skill variety, task identity, task significance, autonomy, performance feedback).

Although they did not explicitly apply the JD-R model, findings of previous studies on direct care workers indicated the role of job resources and job demands in influencing job satisfaction as well as a variety of other individual outcomes including psychological well-being, physical health, job involvement, intent to leave, and turnover (e.g., Brannon, Barry, Kemper, Schreiner, & Vasey, 2007; Lavoie-Tremblay, Bourbonnais, Viens, Vézina, Durand, & Rochette, 2005; Morgan, Semchuk, Stewart, & D'Archy, 2002). Job resources such as being able to help others, having decision authority, and having good income positively affected individual subjective well-being and organizational commitment. In contrast, job demands such as lack of opportunity for career growth and overload increased psychological distress and turnover (Baruch & Barnett, 1986; Brannon et al., 2007). With the use of data drawn from the NNAS, the

current investigation attempted to confirm these previous findings in a large nationally representative sample of CNAs.

In order to have a more comprehensive understanding of factors affecting CNAs' work lives, this study also extended the original JD-R model by including personal resources and demands. Personal demands are physical, emotional, and social aspects of personal life that can have a negative impact on individual well-being. Personal resources are aspects of the self that are generally linked to resiliency and refer to individuals' sense of their ability to successfully control and influence their environments (Hobfoll, Johnson, Ennis, & Jackson, 2003). Research in other occupational fields have identified that employees' personal lives affect their work outcomes (Prieto, Soria, Martínez, & Schaufeli, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2006). However, their roles in predicting job satisfaction and job search behavior of CNAs have not been well studied.

Since its public release in 2007, the NNAS data has been used by several researchers to describe the characteristics of the workforce (Probst, Baek, & Laditka, 2009; Squillace, Remsburg, Harris-Kojetin, Bercovitz, Rosenoff, & Han, 2009) and investigate factors affecting job satisfaction (Bishop, Squillace, Meagher, Anderson, & Wiener, 2009; Decker, Harris-Kojetin, & Bercovitz, 2009), intention to leave (Decker et al., 2009; Stearns & D'Arcy, 2008), and length of job tenure (Wiener, Squillace, Anderson, & Khatutsky, 2009). Bishop and colleagues (2009) examined the effects of variables related to compensation and working conditions on CNAs' overall job satisfaction, controlling for personal characteristics and local labor market characteristics. They identified job demands, supervision, and perceived respect were particularly strong determinants of the level of job satisfaction. Decker et al. (2009) examined predictors of intrinsic job satisfaction, overall job satisfaction, and intent to leave the job. The

study findings indicated that job satisfaction and intent to leave were affected by different factors. For example, assessment of supervisor was associated with overall job satisfaction, but not with intent to leave. The study also found that overall job satisfaction was a significant predictor of intent to leave. Similarly, the study of Stearns and D'Arcy (2008) identified different predictors of facility and profession retention. While job characteristics such as supervisor qualities and compensations primarily affected facility retention, personal characteristics such as household income and education level predicted profession retention.

Even though these researchers used the same NNAS data and some of them used the same dependent variables, each study was unique because of differences in the conceptual framework, final sample size, and the choices and constructions of independent variables. For the current study, the application of the JD-R model allowed including different variables predicting job satisfaction and job behavior from the past studies. Particularly the inclusions of personal resources and demands would expand the literature.

#### Significance of the Proposed Study for Social Work

Traditionally, social work practice and research in nursing homes have primarily focused upon responding to psychosocial needs of residents. *NASW Standards for Social Work Services in Long-Term Care Facilities* (2003) stated that “the principal component of social work services in long-term care settings are designed to provide assessment, treatment, rehabilitation, and supportive care, and to preserve and enhance social functioning” (p. 5). Accordingly, most social work studies in nursing homes have centered upon the roles, functions, responsibilities, and training and education needs of social workers to work with the residents (e.g., Gleason-Wynn, 1995; Meyers, 2006; Sasson, 2000; Solomon, 2004). While these roles are critically important, given their significant impact on the quality of care residents receive, there

is an increasing need for social workers to recognize and address issues concerning the quality of work life of CNAs with whom they work.

The current working conditions and status of CNAs do not reflect social work's belief in social justice and the inherent dignity and worth of the person. Despite the importance of their work in supporting vulnerable individuals in the most intimate manner, these paraprofessional workers, who are typically minority or immigrant women who have low socioeconomic status and limited education are the least valued group of people in the health care industry. They are at the bottom in the system, in terms of status, salary, authority, and privilege (Glenn, 1992; Olson, 2003). Even though they have the most knowledge of residents, they have the least autonomy on the job and typically have very little or no input into decision making and care planning (Ingersoll-Dayton, Schroepfer, Pryce, & Waarala, 2003). In many cases, they are mandated to follow nurses' orders without complaining and simply challenging them may threaten their job security (Stone & Yamada, 1998). In previous studies, CNAs consistently reported frustrations and resentment toward administrators and nurses being disrespectful and not recognizing their skills and knowledge (Jervis, 2002; Pennington, Scott, & Magilvy, 2003; Pfefferle & Weinberg, 2008).

CNAs also receive little social recognition and suffer from a common perception that their job is unskilled and menial. Care work is traditionally "a taken-for-granted female activity" (Dodson & Zircavage, 2007, p. 906) and its significance to society and individuals needing care tends to be undervalued. In addition, often in the media, CNAs are negatively portrayed as lazy, abusive, and inadequate in providing quality care despite the fact that they frequently face racial discrimination, harassment, and violence on the job (Berdes & Eckert, 2001; Browne, 1987; Dodson & Zircavage, 2007; Levin, Hewitt, Misner, & Reynolds, 2003; Stone & Yamada, 1998).

Reflecting their low status, CNAs receive minimal and inequitable wages and benefits. Their median hourly earnings are under \$10 and many workers live below the poverty line and receive public assistance regardless of their full-time work (Eaton, 2005; Potter et al., 2006). They receive inadequate benefits and nearly 25% of them do not have health insurance coverage (Smith & Baughman, 2007). This compensation seems insufficient especially considering the fact that direct care work is back-breaking and physically and emotionally exhausting. The injury rate among CNAs is reported to be more than workers in mining, construction, or steel mill jobs (Kleunen & Wilner, 2000). Nearly one third of them also suffer from depression and other mental health problems (Geiger-Brown, Muntaner, Lipscomb, & Trinkoff, 2004). Given that many entry-level positions in fast-food restaurants and retail stores offer more stable, safer, less demanding, and better paying jobs, attracting and retaining workers in this field is obviously difficult (Potter et al., 2006).

In addition to the strenuous nature of the work, lack of proper training and supervision increase their physical and emotional stress. Even though CNAs are federally mandated to have a minimum of 75 hours of training to be certified, the adequacy of this requirement is questionable as the complexity of the work tasks increases (Stone & Yamada, 1998). CNAs have frequently expressed that they were insufficiently prepared to work with the residents, especially with those who are confused, demented, and mentally ill (Levin et al., 2003). Particularly workers in understaffed nursing homes may have little time available for on-the-job training. Lack of opportunities for continuing education and upgrading their skills also discourage CNAs from pursuing professional advancement for more satisfying long-term employment in the field (Kleunen & Wilner, 2000). Moreover, CNAs receive little supervision and guidance from nurses who struggle with their own caseloads or who do not have strong supervisory skills.

Consequently, they are often left alone with residents, facing great responsibilities without clear authority, support, and channels of accountability (Stone & Yamada, 1998).

Despite the low social status of the occupation and the negative public perception, many CNAs take pride in their jobs. They are dedicated to helping people and value their close, personal relationships with residents. They report feelings of fulfillment when residents respond positively to their care. They are willing to take family-like roles and do extra work or even pay for basic necessities for residents (Pfefferle & Weinberg, 2008). However, current working conditions that largely neglect their needs and interests make it difficult for even the most dedicated workers to stay on their jobs. Under the profit and efficiency-driven nursing home management, they are exploited and treated like a commodity, rather than a person with feelings (Olson, 2003). Their sense of self-worth, pride, and accomplishment are hurt as they receive constant messages from nurses and administrators that their work is unimportant (Bowers, Esmond, & Jacobson, 2003). Excessive physical demands combined with emotional stress of not being able to provide adequate care because of insufficient resources, time, and support, likely result in CNAs' decreased morale and commitment to work (Bowers et al., 2000). Given the interdependent nature of the quality of life of residents and the quality of work life of CNAs, the welfare and rights of both are threatened in the present nursing home environment. Unless CNAs feel rewarded and motivated to perform their best on the job, it is impossible for social workers to ensure the well-being of residents.

Recently among pioneer nursing homes and advocates, there has been an effort to transform the current bureaucratic, medical model based long-term care institutions into communities where residents and workers thrive (Misiorski & Kahn, 2005). This cultural change movement emphasizes the enhancement of quality of lives of the residents and the workers by



adopting new workforce processes, technologies, and architectures. In this new model, care is delivered according to lifestyles, needs, and preferences of individual residents. Thus, input and decisions of CNAs who most closely work with the residents are valued and respected. CNAs often work in self-managed teams, are involved in care planning, have control over scheduling and assignments, and have quality relationships with the residents. Culture change has been found to empower residents as well as staff, contributing to greater job satisfaction and decrease in turnover (Miller & Mor, 2006). In spite of its effectiveness, within the nursing home industry, there is still strong opposition to culture change because of the persistent belief in the efficiency of the traditional authoritative top-down approach (White-Chu, Graves, Godfrey, Bonner, & Sloane, 2009). Promotion of cultural transformation requires more information and data on the positive effects of job resources such as autonomy and perceived respect and the negative effects of job demands such as disrespect and disregard. Such evidence helps create a sense of urgency and promotes cooperation among stakeholders to create more empowering nursing home environments.

### The Current Study

In this study three primary research questions were addressed: (1) How do perceived job resources, job demands, personal resources, personal demands, and demographic characteristics affect job satisfaction of CNAs?; (2) How do perceived job resources and demands, personal resources and demands, and demographic characteristics affect job search behavior of CNAs?; and (3) To what extent does the level of job satisfaction affect job search behavior of CNAs?

This first chapter introduced the research problem and provides an overview of the study.

Chapter 2 presents reviews of theoretical literature and previous research relevant to this study.

The conceptual framework, research questions, and research hypotheses are also provided in

Chapter 2. Chapter 3 describes the research methodology used in the data collection and analysis process of the NNAS. Findings from data analysis are presented in Chapter 4. Implications for research, practice, and policy based on the study findings are discussed in Chapter 5.

By investigating CNAs' perceptions regarding job resources and demands, this study aims to learn what specific aspects of their jobs should be enhanced or improved, so that they would feel more satisfied and committed to the work. Findings of this study will help social workers understand the scope of the issue CNAs are experiencing and facilitate the changes to create the environment where every person is treated fairly with respect and human dignity. They will also be useful for nursing home administrators wishing to improve job performance, recruit and retain workers, and motivate their workforce for quality improvement (Bishop et al., 2009).

In addition, with the goal of obtaining a more comprehensive picture of CNAs' experiences, the current study examines the effects of their perceived personal resources and demands on work outcomes. It is possible that not only work-related factors, but also personal factors are influencing their job commitment, thus requiring collaborative interventions both in and outside of the workplace. For example, as most CNAs are females, they may have multiple caregiving responsibilities for family members and relatives that make it difficult for them to focus on their jobs. On the other hand, they may bring their own strengths and resources to face job demands. Such information will be helpful for all the interest groups to explore the most effective ways to address the long-term care workforce crisis.

## CHAPTER II

### LITERATURE REVIEW

This chapter contains three sections written to provide the theoretical and empirical underpinning for examining perceived job and personal resources and demands and their associations with job satisfaction and job search behavior among CNAs working in nursing homes. The first section provides an overview of the Motivation-Hygiene Theory, the Job Demand-Control (JDC), the effort-reward imbalance (ERI), and the Job Demands-Resources (JD-R) models that informed the development of a conceptual model for the proposed study. The second section presents a summary and critique of prior empirical studies that examined the effects of job related factors and personal characteristics on job satisfaction and job retention among direct care workers in nursing homes. The third section describes the conceptual model, research questions, and hypotheses of the proposed study.

#### Theoretical Considerations

##### *The Motivation-Hygiene Theory*

The Motivation-Hygiene Theory of Herzberg, Mausner, and Snyderman (1959, 1993), which is also called the Two-Factor Theory presents two independent categories of work related factors that influence individuals' attitudes toward their work. The first category consists of eight hygiene or extrinsic factors related to the work environment and the context of the job: (a) policy and administration, (b) technical supervision, (c) interpersonal relations with supervisor, peers, and subordinates, (d) salary, (e) job security, (f) personal life, (g) work conditions, and (h) status.

These factors are vitally necessary for maintaining a reasonable level of satisfaction and their absences lead to job dissatisfaction. That is, if workers feel that they are poorly or inadequately treated in these respects, they tend to feel dissatisfied and frustrated. On the other hand, extrinsic factors have little effect upon job satisfaction. Even if workers are well paid and well managed and work in pleasant conditions, they feel only the absence of such frustrations. They may not cause trouble to the management, but neither will they be motivated to give their best for the job (Howarth, 1984). Good hygiene removes health hazards from the person's environment and prevents diseases, but it cannot positively generate health or cure diseases. Likewise, good working conditions may be able to prevent poor job attitudes, but cannot increase enthusiasm (Hertzberg et al., 1959).

The second category consists of six motivational or intrinsic factors, which are related to basic human needs and the content of the job: (a) achievement, (b) recognition, (c) advancement, (d) the work itself, (e) the possibility of personal growth, and (f) responsibility. These motivation factors contribute to job satisfaction by fulfilling an individual's higher level needs as defined by Maslow (1943). They enable the worker to feel pride and enthusiasm and release the self-generated motivation toward self-actualization. However, their absences have little effect upon job dissatisfaction which is more related to basic human needs at physiological, security, and social levels (Howarth, 1984). While extrinsic factors affect low levels of performance, intrinsic factors affect high levels of performance. That is, once extrinsic factors are met, intrinsic factors will promote job satisfaction and production (Hertzberg et al., 1959). In addition, intrinsic factors tend to dominate global satisfaction which determines how workers perceive their current job and predicts the level of their organizational commitment (Kacel, Miller, & Norris, 2005).

The implication of the Motivation-Hygiene Theory is that job satisfaction and

dissatisfaction are not opposites. The causes of satisfaction and enthusiasm are different in kind from the causes of dissatisfaction and frustration. It is not that the presence of something causes satisfaction while its absence causes dissatisfaction (Howarth, 1984). Rather, the opposite of dissatisfaction is simply the absence of dissatisfaction. Dissatisfaction will occur to the degree that hygiene factors are absent from a job, and motivation and satisfaction will occur to the degree that motivational factors are present in a job. Thus, it is possible that a worker who has no job dissatisfaction also may have no job satisfaction. In such a neutral state, workers perform at the minimally acceptable level necessary to keep their employment.

This theory has been criticized for its lack of attention to individual differences in satisfaction experienced by people with the same job characteristics (Kalleberg, 1977). In addition, research has not consistently supported the division of factors into extrinsic and intrinsic categories (Ellenbecker, Byleckie, & Samila, 2008; Garland, Oyabu, & Gipson, 1989). Results of several studies on direct care workers in institutional and community settings did not find differences in the ways extrinsic and intrinsic factors affected job satisfaction and intent to stay (e.g., Denton, Zeytinoğlu, & Davies, 2002; Feldman, Sapienza, & Kane, 1990; Karsh et al., 2005).

Nonetheless, the theory has frequently been applied in health care settings and the range of variables has been examined in relation to job satisfaction (e.g., Kacel et al., 2005; Sharp, 2008). In long-term care settings, Parsons et al. (2003) adopted the Motivation-Hygiene Theory and examined six subscales of job satisfaction in relation to overall job satisfaction and turnover intention of 550 NAs employed in nursing homes. Six subscales were Personal Opportunity, Supervision, Benefits, Coworker Support, Social Rewards, and Task Rewards. In addition to the six factors, factor analysis identified one new factor, Management Keeping Employees Informed.

Results of multivariate analysis indicated overall job satisfaction was predicted by satisfaction with Personal Opportunity, Supervision, Social Rewards, Coworker Support, and Management Keeping Employee Informed ( $R^2 = .42$ ). Personal Opportunity, Supervision, and Management Keeping Employees Informed also predicted intent to leave the job. Personal Opportunity (i.e., personal and professional growth, involvement in decisions on the job) was most significantly related to both overall satisfaction and intent to leave. Task Rewards (i.e., the importance and challenge of the job) and Benefits were not significant predictors of overall job satisfaction and turnover.

The Motivation-Hygiene Theory has been popular because of its practical utility and focus on structural factors and job characteristics. The theory does not blame individual workers for their attitudes and abilities, rather it suggests that employers who can control specific job characteristics should manipulate and change these in order to increase job satisfaction and performance of their employees (Kalleberg, 1997). Most of all, the theory reminds management that people need to find enjoyment and pride in their work and that they need this as well as, not instead of, fair compensation and good working conditions (Howarth, 1984).

#### *The Job Demand-Control (JDC) Model*

Karasek (1979) developed the JDC model that focuses on two dimensions of the work environment: job demands and job control. Job demands refer to stressors in the work environment such as excessive workload, conflicting demands, and time pressure. Job control, which is sometimes called decision latitude or discretion refers to “the working individual’s potential control over his (sic) tasks and his conduct during the working day” (p. 290). The dimension of job control has two main components: (a) skill discretion (i.e., the degree to which the job involves nonrepetitive work and requires high skill levels, new learning, and creativity)

and (b) decision authority (i.e., the degree to which the job allows individuals to make decisions over their own work).

The JDC model proposes that having decision latitude mitigates the negative effects of job demands on the psychological and physical adjustments of workers. According to Karasek (1979), there are four types of work situations that are generated by varying the levels of job demands and job control: (a) high-strain, (b) active, (c) low-strain, and (d) passive jobs. High-strain jobs have a combination of high psychological demands and low-decision latitude, which result in the most adverse reactions of psychological and physical strain. Active jobs involve simultaneously high job demands and job decision latitude. They encourage workers to develop new behavior patterns and coping skills, and therefore lead to little residual psychological strain. Low-strain jobs have low demands and high decision latitude and allow the individual worker to optimally respond to each challenge. Finally, passive jobs have low psychological demands and low decision latitude and may induce a gradual decline in overall activity and general problem solving skills.

Later, Johnson and Hall (1988) included social support in the original model to take into account the support of supervisors and colleagues such as team spirit, assistance, and cooperation. In this Job-Demand-Control-Support (JDCS) model, social support is expected to moderate the effect of job strain. Thus, an optimal psychosocial work environment for workers is characterized by demands that are adapted to an individual's capacities, a satisfactory level of control, and adequate social support on the job. In contrast, workers facing high job demand coupled with low job control and low social support are the most at-risk of experiencing occupational stress.

Along with the Job Content Questionnaire (JCQ) developed by Karasek (1979) to

measure job demands and decision latitude, the JDC and JDCS models have widely been applied to investigate the relationship between work conditions and well-being of workers in various settings, including long-term care and health care settings (e.g., Lavoie-Tremblay et al., 2005; Morgan et al., 2002). A review of 20 years of empirical research identified that many studies have supported the models in prediction of job satisfaction, job anxiety, depression, burnout, and psychological distress (Van der Doef & Maes, 1999). For example, in a survey of 404 randomly selected hospital-based nurses, Laschinger, Finegan, Shamian, and Almost (2001) found that participants with high-strain jobs had significantly lower perceptions of structural and psychological empowerment, less commitment to the organization, and lower work satisfaction than those in low-strain groups. Morgan et al. (2002) also applied the model to understand occupational stress among workers in rural nursing homes, including nurses, NAs, and activity workers. The overall mean scores for job demands and decision latitude indicated that NAs were in the high job strain group while activity workers were in the active group and nurses were in the low job strain group. Focus group interviews with NAs supported the findings. NAs had excessive workload and caregiving responsibilities while they lacked sufficient skills in caring for the large proportion of residents with dementia.

On the other hand, because they were predominantly developed based on data from male workers in industrial settings, the models and the JCQ have been questioned for their applicability to female workers, especially those in health care and social service occupations. In fact, while previous studies have found that high job demands, low job control, and low social support can independently influence work outcomes, many of those focused on female workers failed to confirm the buffering effects of job control (Van der Doef & Maes, 1999).

Barnett and Marshall (1991) argued that women and men perceive different aspects of



work as rewarding or problematic and therefore the search for sources and buffers of stress in the workplace should be broadened to reflect the experiences of female workers. They expanded the original JDC model to include the importance of the rewards from helping others as a moderator of heavy demands for women in service industries. Further, based on interviews with 72 women (Baruch & Barnett, 1986), they designed the Job Role Quality Questionnaire (JRQ) to adapt the JCQ to more accurately reflect women's psychological responses to service work.

The JRQ contains five job concern subscales (i.e., overload, dead-end job, hazard exposure, poor supervision, and discrimination) and six job reward subscales (i.e., helping others, decision authority, challenge, supervisor support, recognition, satisfaction with salary). Among these subscales, perceived job rewards from helping others have been identified as a consistent predictor of well-being of health care providers. For example, using a random sample of 403 female social workers and licensed practical nurses, Barnett and Marshall (1991) identified that mental health was affected by both the presence of work concerns and the absence of work rewards. Specifically, subjective well-being and psychological distress were both associated with overload, helping others, and decision authority. Moreover, rewards from helping others at work buffered the negative mental health effects of work overload.

Brannon and colleagues (2007) adopted the JCQ to examine how job rewards and job concerns affect intention to leave among direct care workers ( $N = 3039$ ) based on a convenience sample of 50 skilled nursing facilities, 39 home care agencies, 40 assisted living facilities, and 10 adult day services in five states. The mailed survey yielded a response rate of 54.4%. Findings indicated that a sense of reward coming from helping others affected intention to turnover among home care workers. The values of helping, being needed, and making a difference in others' lives were positively related to being in the stable, "not at all likely to leave the job in the next year"

group and negatively related to being in the “very likely to leave” group.

### *The Effort-Reward Imbalance (ERI) Model*

Similar to the model of Barnett and Marshall (1991), Siegrist (1996) focused on the reciprocity of efforts spent and rewards received at work and developed the ERI model. The central tenet of the model is that an imbalance between effort and reward will lead to arousal and stress, which in turn, may increase the risk of poor health. Efforts refer to extrinsic job demands (i.e., work pressure, interruptions, inconsistent demands, and task complexity) as well as intrinsic motivation to meet these demands. Rewards are job-related benefits, including salary, regard, and career opportunity. In addition, the model proposes that the reciprocal relationship between efforts and rewards is intensified by over commitment, which is defined as a set of attitudes, behaviors, and emotions reflecting a strong desire of being approved and esteemed (Bakker & Demerouti, 2007). Over committed workers may expose themselves more often to high demands at work. They may also exaggerate their efforts spent and low rewards they receive in return. Thus, over commitment is hypothesized to directly and indirectly affect employee well-being.

A review of 45 empirical studies identifies support for the ERI model, finding the combination of high effort and low reward as a risk factor for negative physical, emotional, and job-related outcomes (van Vegchel, de Jonge, Bosma, & Schaufeli, 2005). For example, in health care settings, Fillion and colleagues (2007) adapted the JDCS and ERI models to examine the effects of job stressors and resources on job satisfaction and emotional distress among 209 nurses providing palliative care. The results of structural equation modeling demonstrated that job effort ( $\beta = .17$ ) and job reward ( $\beta = .24$ ) are the best predictors of job satisfaction along with job demand and people-oriented organizational culture ( $R^2 = .41$ ). Nurses reporting lower efforts, more rewards, fewer job demands, and supportive organizational cultures had higher job

satisfaction than others. On the other hand, in previous studies, the direct effect of over commitment on employee outcomes has not been well supported. Also, its role in mediating the relationship between the effort-reward imbalance and employee well-being has rarely been examined (van Vegchel et al., 2005).

### *The Job Demands-Resources (JD-R) Model*

Although the JDC and ERI models have helped researchers to understand the impacts of job characteristics on work and psychosocial outcomes, they have also been criticized, especially for their over simplicity and static character. The two models focus only on a specific set of predictor variables (e.g., autonomy in the JDC; job security in the ERI) that may not be relevant to all job positions. Consequently, by utilizing the models, researchers may study factors that are irrelevant to particular occupations while they neglect important variables in the context (Bakker & Demerouti, 2007).

In an attempt to address such drawbacks of the JDC and ERI models, the more flexible, JD-R model was developed (Demerouti et al., 2001). In the JD-R model, psychosocial job characteristics are broadly divided into two categories: job resources and job demands. Depending on the job context under study, specific characteristics in each category change (Bakker & Demerouti, 2007). The JD-R model proposes that job demands and job resources evoke two different psychological processes. In the health impairment process, energy depletion and health problems can occur given job demands that drain workers' mental and physical resources. In the motivational process, the availability of job resources stimulates employee motivation and increases work engagement and organizational commitment (Bakker & Demerouti, 2007). Negative employee outcomes are the results of high job demands and low job resources to meet them.

The JD-R model also proposes that job resources may buffer the relationship between job demands and employee outcomes. That is, under demanding work conditions, workers who have more resources are more capable of dealing with the demands, thus they experience fewer psychosocial problems. According to the model, different job resources can play the role of buffer for different job demands, depending on the specific job characteristics (Bakker & Demerouti, 2007).

Several studies, mostly conducted in Europe, have supported the JD-R model, finding the direct and indirect effects of different job demands and resources on various psychosocial outcomes, including depression, burnout, job satisfaction, turnover intention, and actual turnover (de Lange, De Witte, & Notelaers, 2008; Hakanen, Schaufeli, & Ahola, 2008; Llorens, Bakker, Schaufeli, & Salanova, 2006). A study conducted by Knudsen, Ducharme, and Roman (2009) in the United States also supported the JD-R model. Using a sample of 410 leaders of addiction treatment organizations, researchers examined the effects of two types of job demands (performance demands and centralization) and two types of job resources (innovation in decision-making and long-range strategic planning) on emotional exhaustion and turnover intention. A structural equation model indicated that both job demand factors were positively, and one job resource factor, long-range strategic planning, was negatively associated with emotional exhaustion. Centralization and innovation in decision-making were also directly associated with intent to turnover.

In the long-term care setting, Bakker, Demerouti, Taris, Schaufeli, and Schreurs (2003) tested the JD-R model using a sample of 3,092 Dutch home care workers. The study chose burnout as an outcome variable and examined the influences of six job demand factors (i.e., workload, physical demands, problems with planning, emotional demands, sexual harassment,

and patient harassment) and six job resource factors (i.e., autonomy, social support, coaching by the supervisor, possibilities for professional development, performance feedback, and financial rewards). Results of structural equation modeling analyses showed that job demands were positively and job resources were negatively associated with burnout. Job resources were also positively associated with professional efficacy.

Reviewing 35 studies that have investigated individual and organizational characteristics related to stress in the health and community services sector, Dollard, LaMontagne, Caulfield, Shaw, and Blewett (2007) found consistent empirical support for the JD-R model. Previous studies identified that high work and emotional demands (e.g., heavy workload, work pressure, emotional labor) combined with low resources (e.g., low control, low material and emotional rewards, low support) were associated with adverse health (e.g., negative psychological and physical outcomes) and organizational outcomes (e.g., reduced job satisfaction, sickness absence). Dollard et al. suggested that, because of its flexibility to include stressors unique in the context, the JD-R model could provide a more appropriate framework to explain stress in the health and community services sector than the JDC and ERI models.

Recently, several researchers have extended the JD-R model to include personal or home demands and resources. However, previous findings on their effects have been mixed. For example, a longitudinal study on 2,555 Finish dentists did not find the effects of home demands (e.g., quantitative and emotional home demands) and home resources (support from friends, family and partner) on the motivational or health impairment process over time (Hakanen et al., 2008). Another study examined the role of personal resources (i.e., self-efficacy, organizational-based self-esteem, and optimism) in predicting exhaustion and work engagement among 714 Dutch workers (Xanthopoulou et al., 2007). Results of structural equation modeling analyses

showed that personal resources did not moderate the relationship between job demands and exhaustion. Instead, they mediated the relationship between job resources and work engagement or exhaustion and influenced the perception of job resources. Researchers explained that the supply of job resources activates employees' personal resources including self-efficacy, self-esteem, and optimism and makes them feel more capable of controlling their work environment. Consequently, they become more confident and proud of the work they do, find meaning in it, and stay engaged. They will also not become overly fatigued because they feel more capable to perform their tasks without investigating excessive effort. Moreover, employees with personal resources are optimistic about their future, thus they may identify or create more aspects of their environment that facilitate goal attainment.

In long-term care settings, because of limited physical and emotional resources available, direct care workers often need to rely on their own skills, judgments, and strengths in their daily work. CNAs with personal resources who have confidence in their capabilities may work more effectively, exhibit more positive attitudes toward residents and their work in general, and thus may have greater satisfaction with their job. In addition, they may be more interested or actively engaged in the improvement of their work environment and development of new institutional resources.

### *Discussion of the Theoretical Literature*

In these theories and models previously discussed employee outcomes were determined by various factors at multiple levels that could be classified differently. Herzberg et al. (1959, 1993) grouped predictors of job satisfaction into intrinsic and extrinsic categories. Their theory suggests that job dissatisfaction that is caused by the absence of extrinsic factors can lead to job turnover. Karasek (1979) narrowed attention to the two workplace dimensions that are job

demands and decision latitude as predictors of psychological well-being of workers. His JDC model explains that job demands such as time pressure and work overload lead to negative outcomes such as job-related depression, anxiety, and burnout, particularly when workers lack autonomy or job control. Later, Johnson and Hall (1988) extended the model to include social support, assuming that lack of support from colleagues and supervisors may suppress the moderating role of control in the relationship between job demands and stress reactions. In other words, according to this JDCS model, a stressful work environment is characterized not only by high job demands and low job control but also by lack of social support (Bakker et al., 2003). Barnett and Marshall (1991) then expanded the JDC model and identified job rewards and job concerns perceived by female social service and health care workers.

Similarly, Siegrist (1996) developed the ERI model to emphasize the reward, rather than the control structure of work. The model includes rewarding aspects of work (i.e., money, regard, and job security) that were identified as hygiene factors by Herzberg and colleagues (1959, 1993). The ERI model proposes that a work situation characterized by a combination of a high level of effort expended and little reward received can have negative effects on employee well-being.

The basic assumptions of the JD-R model is similar to those of the earlier models: The presence of job demands and the absence of job resources lead to negative psychosocial outcomes, whereas the presence of job resources lead to positive outcomes (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). However, the JD-R model is unique in not focusing on specific variables that are assumed to be universally applicable. Rather, it allows researchers to incorporate different job demands and resources that are characteristic of the occupation under study. Given this flexibility, the proposed study adopts the JD-R model to examine the aspects of

work affecting CNAs working in nursing homes. In addition, current research extends the original model to study the effects of personal demands and resources. The following review and discussion of the empirical literature on job satisfaction and retention among CNAs will help to determine job-related and personal factors that may be relevant to this particular occupational group and the current exploration.

### Empirical Investigations

Identified factors influencing job satisfaction and job retention of CNAs employed in nursing homes were classified into five major categories: (a) job resources or positive job characteristics, (b) job demands or problematic job characteristics, (c) personal resources, (d) personal demands, and (e) demographic characteristics. Many of the studies investigated multiple factors in different categories, therefore, they may be referred to in more than one section. Detailed description of study methods will be presented the first time they are cited, with subsequent citations focusing mainly on the findings.

#### *Job Resources*

Job resources are related to the institutional management, work tasks, and interpersonal relations in an organization. Resources at the institutional level include supportive organizational policies, perceived quality of care, adequate salary and benefits, opportunity for advancement, and adequate facility resources. Resources at the work task level include autonomy and job control, participation in care planning, and task and role clarity. Finally, resources in interpersonal relations include supervisory support, peer support, and positive interactions with residents.



### *Institutional Resources*

#### *Supportive organizational policies and practices.*

Several studies have found that supportive organizational policies and administrative practices have a positive impact on job attitudes and behavior of CNAs. Grau and colleagues (1991) identified that satisfaction with administrative practices were related to institutional loyalty. NAs employed at two large nursing homes located in New York City participated in this study ( $N = 219$ ). Previously developed job satisfaction scales, including the Work Environment Scale (WES) and Work Social Support Scale, were used to measure five dimensions of job satisfaction: (a) the job task, (b) job benefits, (c) job process (e.g., the adequacy of the material, information, and human resources necessary for the job), (d) social atmosphere (e.g., supportive coworkers, warm and friendly work environment), and (e) attitude toward the nursing home's administration (e.g., administrators' relationships with employees, their fairness, ability to do things at the right time, to plan ahead, and to consider employees' interests). Institutional loyalty was measured through a modified version of the Organization Commitment Scale. The scale addressed respondents' pride in and sense of identification with the nursing home as well as their satisfaction with the choice of the workplace. Results of a hierarchical multiple regression analysis showed that along with educational level and income, satisfaction with social atmosphere, job benefits, and administration were related to institutional loyalty ( $R^2 = .38$ ). Positive perception toward administrative practices was found to be as important as attitudes toward job benefits in accounting for institutional loyalty.

Similarly, Tellis-Nayak (2007) investigated what role managers play in the satisfaction, loyalty, and commitment of CNAs ( $N = 3,579$ ) from 156 nursing facilities. The staff survey addressed four dimensions of quality: training, supervision, management by administration and

director of nursing (i.e., managers care and listen), and work environment (e.g., wages, respect for residents, fair evaluations). Single item questions were used to measure job satisfaction, loyalty, and commitment. Results of zero-order correlations indicated that CNA satisfaction, loyalty, and commitment increase when their managers care about them and listen to them.

Using a subsample of the National Nursing Assistant Survey (NNAS) ( $n = 2,252$ ), Bishop and colleagues (2009) examined how variables related to compensation, job demands, supervision, coworker, job design, organizational context, personal characteristics, and local labor market conditions affect job satisfaction of CNAs. A series of ordered logistic regression analyses were performed. Findings showed that CNAs who responded that they felt respected and rewarded for their work by the facility were less likely to be dissatisfied with their jobs, as were those who reported that their employer valued their work.

As CNAs are a culturally diverse group of workers, culturally sensitive administrative practices might also be an important determinant of their job satisfaction. Allensoworth-Davies and colleagues (2007) examined the effects of perceived organizational cultural competence on job satisfaction among 135 NAs at four nursing homes in New England. Of all participants, 69% were foreign born. Researchers developed an eight-item scale to assess NAs' perceptions of organizational cultural competence ( $\alpha = .76$ ). Specifically, respondents were asked about their comfort in the workplace, cross-cultural communication, and the role of management as well as their knowledge of cross-cultural conflict. Job satisfaction was measured by the Job Diagnostic Survey (JDS) that is composed of five questions addressing overall job satisfaction, turnover intention, satisfaction with the type of work required, satisfaction among employees, and turnover intention of other workers. In addition, a scale developed by Sanchez and Brock (1996) was used to measure perceived coworker attitudes toward race and culture, including racial and

cultural stereotypes, perceptions of nonnative English speakers, and reactions to cultural customs. A multivariate, generalized linear model analysis identified that organizational cultural competency was the strongest predictor of job satisfaction among NAs ( $\beta = .41$ ), followed by autonomy ( $\beta = .23$ ). Thus, the findings indicated the importance of managers explicitly attending to the effects of race and culture on employee behavior and perceptions of organizational climate.

On the contrary, Anderson, Corazzini, and McDaniel (2004) found that CNA turnover was higher in nursing homes where staff perceived the administrative climate as rewarding and supportive. Researchers surveyed a total of 3,449 employees, including 2,317 CNAs from 164 randomly selected nursing homes in Texas. The response rate was 43%. Participants' perceptions of management practices (i.e., communication patterns and administrative climate) were linked to data from Texas Medicaid nursing facility cost reports. The study used information on facility characteristics (e.g., ownership, size, occupancy rate), resource allocation (e.g., staff hours per resident day, clinical resources available for resident care), and turnover. Results of a hierarchical regression analysis identified that facilities that were classified as having rewarding climates based on the perceptions of respondents had higher turnover rates. Researchers suggested that CNAs may think of the clarity of roles, goals, and feedback from management as being authoritative. Also, management's concern for employee welfare on and off the job may be viewed as paternalistic.

In recent years, there has been a movement toward culture change in long-term care facilities. The movement involves a shift in philosophy and practice from the traditional medical model that overemphasizes safety, uniformity, and medical issues toward resident-directed, consumer-driven health promotion and quality of life (White-Chu et al., 2009). Although many consumer-driven models have been developed and implemented, one characteristic typically

found has been the empowering of direct care workers. It is based on a belief that the change from a hierarchical to an empowering management approach will enhance resident care (Yeatts & Cready, 2007).

For example, Yeatts and Cready (2007) implemented a total of 21 empowered work teams in five nursing home facilities in North Texas. Using pre-post test design, researchers examined the effects of the work teams on performance, job attitudes, and turnover among CNAs. General job satisfaction was measured using three questionnaire items taken from existing scales. CNAs in the empowered work teams involved in nurse management decisions related to CNA work, making recommendations and decisions for care, and participating in weekly meetings to discuss their concerns. Comparing CNAs in nursing homes that did not have the empowered work teams (i.e., a control group), CNAs in the experimental nursing homes reported higher levels of global empowerment, autonomy, impact or meaningfulness, and competence. Collaboratively working with management nurses on care planning, getting regular feedback, and taking responsibilities for decision making helped CNAs feel empowered and competent. These CNAs were also significantly less likely to quit or be terminated than those in the control group. On the other hand, quantitative data did not show a positive effect on job attitudes, including job satisfaction, commitment, and self-esteem. In addition, there was no significant change in absenteeism.

*Quality of care in the facility.* Related to organizational practices, it is important for CNAs to feel that the facility where they work strives to provide quality care. Karsh and colleagues (2005) examined whether job characteristics, work environment, participation in quality improvement activities, and facility quality improvement environment predicted commitment, job satisfaction, and turnover intention. Data were collected from a total of 6,584

employees at all levels, including 2,221 CNAs from 76 nursing homes in a Midwestern state. The response rate was 44%. A self-administered survey questionnaire included 103 items addressing four major areas: (a) demographic and job characteristics (e.g., role conflict, role ambiguity, feedback received from others), (b) work environment (e.g., task orientation, work pressure, task clarity), (c) organization's quality improvement activities, and (d) quality in the nursing facility.

Specifically, the measure of organizational quality environment was made up of items that assessed the degree to which the organization rewarded quality, provided time for improvement, provided training, demonstrated cooperation and teamwork, and followed up on new ideas and suggestions. Quality in the nursing facility was measured by a single item asking how caring the respondents perceived their facility to be. Intrinsic and extrinsic job satisfactions were measured using the Minnesota Satisfaction Questionnaire (MSQ). Measures of organizational identification (e.g., being part of the nursing facility) and organizational involvement (e.g., making an effort for the facility) were used to assess commitment. In addition, turnover intention was measured asking respondents if they were planning to leave the facility in the near future. The results of the hierarchical multiple regression analyses indicated that, after controlling for demographic variables and other work environment and job characteristics variables, organizational quality environment had the strongest relationship with commitment, intrinsic job satisfaction, and extrinsic job satisfaction. In addition, perceptions of quality in the nursing facility significantly predicted all three outcomes.

Castle, Degenholtz, and Rosen (2006) also reported that the perceived quality of care was related to job satisfaction of caregivers in two nursing homes in Pennsylvania. Researchers examined the effects of the perceived quality and demographic factors on satisfaction with work

(e.g., attachment to the facility, positive feeling toward the job and coworkers), pay, and management (e.g., opportunities for getting promotion). A total of 251 nurses and NAs participated in the study. The Job Description Index (JDI) was used to measure job satisfaction. Perceived quality of care was assessed by a question asking whether respondents would recommend the nursing home for a relative or friend. Regression analyses showed that caregiver's perception of the quality of care was associated with all three domains of job satisfaction.

*Salary and benefits.* Pay and benefits have been identified as significant sources of job satisfaction. Ejaz, Noelker, Menne, and Bagaka (2008) examined factors affecting job satisfaction of 644 direct care workers in randomly selected 27 nursing homes, 14 assisted living facilities, and 8 home care agencies. Of all participants, nursing home employees represented 58.6% ( $n = 432$ ). A survey instrument was designed to question job satisfaction, background characteristics, personal stressors, job-related stressors, and job-related support. The job satisfaction scale consisted of 16 items and measured satisfaction with various aspects of work, including working conditions, perceived recognition, the amount of responsibility, and job security. The result of a multiple regression analysis showed higher job satisfaction among care workers who perceived being fairly compensated for their job, had a retirement/pension plan, and had paid health insurance. Further, care workers employed in organizations offering a higher minimum starting rate of pay were more satisfied with their jobs.

Several studies have also reported the association between wages and turnover. Kash, Castle, Naufal, and Hawes (2006) investigated the effects of facility and market-level characteristics on staffing levels and turnover rates in 1,014 Texas nursing homes. Data from the Medicaid nursing facility cost report were used to obtain information on facility characteristics

such as profit status, number of beds, occupancy rate, and hourly wages for nurses and CNAs. The results of ordinary least squares regression analyses indicated that wages were negatively associated with CNA turnover, that is, higher wages reduced CNA turnover.

Likewise, Castle et al. (2007) found that satisfaction with salaries affected intent to leave and actual turnover among NAs employed in nursing homes. A total of 1,779 NAs from 72 randomly selected nursing homes in five states participated in the study. The overall response rate was 62%. A survey instrument was developed to measure satisfaction with seven dimensions: (a) coworkers, (b) workplace support, (c) work content, (d) work schedule, (e) training, (f) rewards, and (g) quality of care. Scores from the seven subscales were summed to obtain the overall job satisfaction score. In addition, turnover intention was measured using a scale developed by Mobley, Horner, and Hollingsworth (1978). The scale addressed three phases of the turnover process: thinking about leaving, thinking about job searching, and searching for a job. Actual turnover data after one year were collected through a follow-up survey to NAs who had responded at baseline. The results of ordered multinomial logistic regression analysis indicated high scores on the rewards subscale and predicted less likelihood of thinking about leaving, thinking about job search, searching for a job, and turnover. Thus, NAs who perceived that they were paid fairly and received chances for further advancement were more likely to stay on their job.

Similarly, using a sample of 255 CNAs in 15 nursing homes, Bishop and colleagues (2008) found satisfaction with wages, benefits, and promotion possibilities were associated with intent to stay on the job. The response rate was 96%. Researchers developed a nursing assistant survey to measure workplace relationships, job satisfaction, and resident care. The 82 item survey addressed six areas: (a) personal characteristics, (b) satisfaction with tangible job rewards,

including wages, benefits, and promotion possibilities, (c) perceived respect from supervisors, (d) job autonomy, (e) teamwork, and (f) basic supervision. In addition, CNA intent to stay was measured by a single question, “Do you plan to leave your current job?” Results of a logistic regression analysis indicated that satisfaction with tangible rewards was related to CNAs’ intent to stay once personal characteristics were accounted for.

Decker et al. (2009) used the NNAS data to examine the effects of extrinsic job factors (e.g., assessment of supervisor behavior, pay satisfaction, employee benefits) and personal characteristics on intrinsic job satisfaction, overall satisfaction, and intention to leave the job among CNAs. The study only focused on CNAs who worked 30 or more hours per week ( $n = 2,146$ ). Regression models showed that pay satisfaction was associated with all three dependent variables while availability of health insurance and paid sick leave were only related to intention to leave. In addition, paid holidays were associated with intrinsic satisfaction and overall satisfaction, but not with intent to leave.

Another study in which NNAS data were used found that hourly wage and paid time off for vacation and personal days were related to intent to leave and job search behavior (Sterns & D’Arcy, 2009). Using data from a subsample ( $n = 2,328$ ), researchers investigated the effects of job characteristics (i.e., supervisor quality, training, and benefits), facility and area characteristics, and personal and sociodemographic characteristics on facility retention (i.e., whether CNAs expected to leave the current job within one year and whether they were also searching for a new job) and profession retention (i.e., whether CNAs did not expect their next job to be as a CNA). In this study, paid time off for holidays and sick days and availability of health insurance were not related to any of the dependent variables.



*Opportunity for advancement.* Possibilities of professional advancement including promotion, training, and continuing education opportunities are also important institutional level resources. In the Bishop et al. (2008) study, CNAs who felt the chances of promotion were good were more likely to stay in their jobs. Parsons et al. (2003) reported that satisfaction with opportunities for personal and professional growth and involvement in decisions on the job were most significantly related to both overall satisfaction and turnover intention.

A study conducted in two Swedish nursing homes also found that perceived opportunities for professional development at work were associated with overall job satisfaction (Hasson & Arnetz, 2007). Participants were 565 nursing staff, including nurses and NAs. The subscales of Quality-Work-Competence Questionnaire (QWC) were used to measure the perceptions regarding skill development (e.g., opportunity to use one's knowledge, job tasks helping one's professional development), work stress, work-related exhaustion, and mental energy. Job satisfaction was measured by a single question, "How satisfied are you overall with your work situation?" Results of a multiple regression analysis showed that skill development, work-related exhaustion, mental energy, and work stress were all significant predictors of job satisfaction ( $R^2 = .46$ ). Nursing staff who perceived that they had opportunities for professional development at work had higher job satisfaction.

Training opportunities seem to be a particularly important source for satisfaction of direct care workers. Karsh and colleagues (2005) identified that nursing home employees who felt that they received necessary training were more committed and satisfied with the extrinsic features of their jobs. Montoro-Rodriguez and Small (2006) also found that job satisfaction of direct care staff was influenced by hours of in-service training they received. Similarly, Ejaz et al. (2008) reported that direct care workers who perceived they had better on-the-job training in

terms of the usefulness of continuing education and job orientation had higher job satisfaction. Furthermore, the Castle et al. (2007) study identified that satisfaction with training and skill development opportunities predicted intent to leave and actual turnover among NAs.

Training and continuing education might be especially important for CNAs who provide specialized care. Zimmerman and colleagues (2005) studied how working with residents with dementia affected stress and job satisfaction of 154 direct care workers in four states. Participants were recruited from 31 residential care and assisted living facilities and 10 nursing homes. Of them, 58% ( $n = 90$ ) worked in nursing homes. Researchers collected data regarding individual workers' attitudes toward people with dementia, work stress (e.g., uncooperative residents, unhelpful coworkers, lack of performance feedback), and perceptions of training in assessment and treatment. In addition, they measured six domains of job satisfaction: feedback, the care organization, one's own expectations, patient contact, and expectations of others. Overall job satisfaction was calculated by summing the scores of six subscales. Results of linear models showed that workers who perceived that they were well trained in assessment and treatment of behavioral and emotional problems were more satisfied with their experience of working with residents with dementia.

*Facility resources.* In addition to supportive organizational policies, CNAs need tangible resources to carry out their daily tasks. In Stearns and D'Arcy's study (2009), availability of lifting devices was negatively associated with intention to leave and job search behavior. Ramírez, Teresi, Holmes, and Fairchild (1998) found the availability of needed supplies was associated with job satisfaction among NAs. They investigated the effects of work assignment characteristics, workload stressors (e.g., percentages of working with residents who were confused, difficult to care for, and incontinent), environmental stressors (i.e., the

availability of needed supplies on the unit), racial tension stressors, and the availability of work resources (i.e., training and work-related support) on job satisfaction, burnout, and demoralization. NAs who participated in the study ( $N = 337$ ) were recruited from randomly selected 20 nursing homes in New York. Job satisfaction was measured using the Cantor and Chichin Job Satisfaction Scale (1990) that addresses perceived job benefits, a sense of accomplishment, feelings about being able to see the results of their work, and personal satisfaction. Results of multivariate analyses showed that the availability of supplies was positively associated with job satisfaction and negatively with burnout and demoralization of NAs.

Montoro-Rodriguez and Small (2006) examined how work resources, work demands, conflict resolution styles, and individual characteristics affected job satisfaction, staff morale, and burnout. Study participants ( $N = 161$ ) were recruited from nursing staff employed at seven nursing homes in Ohio and British Columbia. Work resource variables included the level of the availability of needed supplies, the adequacy of the staff facilities, the average number of staff in-service training hours, and frequency of care planning team meetings. Work demand variables included average number of assigned residents per shift, the level of care intensive residents per shift, frequency of shift rotation, frequency of change of residents per shift, and observed past conflict among staff and residents. Staff job satisfaction was assessed using the scale developed by Cantor and Chichin (1990). Results of multivariate regression showed that satisfaction with availability and adequacy of facility supplies was the strongest predictor of job satisfaction ( $\beta = .27$ ).

### *Work Task Level Resources*

#### *Autonomy and job control.*

Work autonomy has been linked to greater job satisfaction. Schaefer and Moos (1996) examined the effects of work stressors and work climate on job satisfaction, intent to stay, job-related distress, depression, and physical symptoms. Participants were 405 staff recruited from 14 long-term care facilities in California. Of them, 197 were NAs. In order to identify changes over time, researchers collected follow-up data at 8 months. The Work Stress Inventory was used to measure four work stressors: supervisor/physician relationships, general job tasks, patient care tasks, and workload and scheduling. The WES was used to measure the social climate in work settings, specifically coworker cohesion, autonomy, and clarity. Both scales were previously developed by the researchers. Job satisfaction was assessed using six items adapted from several scales. Intent to stay was measured by a single question, “Are you thinking about leaving your present job?” Results of hierarchical multiple regression analyses showed that autonomy (i.e., the extent employees are encouraged to be self-sufficient and make their own decisions) predicted intent to stay at the baseline ( $\beta = .11$ ) and job satisfaction at follow-up ( $\beta = .12$ ).

Karsh et al. (2005) also found that nursing home employees who felt that they have control over their tasks and are able to do their job independently had higher intrinsic job satisfaction. Likewise, Tyler and colleagues (2007) reported the association between job satisfaction and autonomy. They examined the effect of job design on job satisfaction among employees of 20 long-term care facilities in Massachusetts. Of 1,146 participants, 72% ( $n = 829$ ) were CNAs. A modified version of the JDS was used to measure job design in five areas (i.e., skill variety, task identity, task significance, autonomy, and intrinsic feedback) and job satisfaction. A hierarchical linear regression analysis identified that CNA job satisfaction was

influenced by autonomy, task identity, and intrinsic feedback.

*Participation in care planning.* CNAs value the opportunities for input into care planning. In the study of Montoro-Rodriguez and Small (2006), frequency of care planning team meetings was positively associated with job satisfaction ( $\beta = .22$ ). Robison and Pillemer (2007) also found the association between care plan involvement and job satisfaction. Data on job satisfaction and job characteristics were collected from 892 nursing home staff, including 618 CNAs, working in 38 randomly selected facilities in New York and Connecticut. Job satisfaction was assessed using the Generic Job Satisfaction Scale. The scale addresses nine different aspects of the job, such as job security, wages, and recognition received for the work. Likelihood of leaving employment in the nursing home was measured by a single item, asking respondents how likely they would be to decide to quit their jobs in the next 12 months. Independent variables included facility characteristics (e.g., size, unionization), work characteristics (e.g., care plan involvement, time pressure), and relationships with coworkers, supervisors, and family members. Stepwise regression models showed that care plan involvement was a significant predictor of job satisfaction ( $\beta = .19$ ) along with variables related to interpersonal relationship and time pressure.

*Task and role clarity.* Unambiguous roles and clear job tasks and expectations also are critical factors that contribute to CNA job satisfaction. Schaefer and Moos (1996) found that work clarity (i.e., how much employees know what to expect in their daily routines and how explicitly rules and policies are communicated) predicted job satisfaction at the baseline and follow-up surveys. Karsh et al. (2005) also identified that task clarity predicted extrinsic and intrinsic job satisfaction. On the other hand, role conflict and role ambiguity were negatively associated with intrinsic job satisfaction. Further, role conflict predicted dissatisfaction with

extrinsic aspects of the job.

### *Interpersonal Resources*

*Supervisory support.* Having positive interpersonal relationships at work possibly promotes well-being of CNAs. Grau et al. (1991) identified that positive social atmosphere, such as the warmth and friendliness of the facility and supportiveness of co-workers and superiors was a more important predictor of institutional loyalty than other job characteristics, such as job tasks and job process. Particularly, supervisory relationships and quality of supervision have been found to have strong associations with job satisfaction of CNAs. In the study of Robison and Pillemer (2007), nursing staff who “get along with supervisors” had higher job satisfaction and were less likely to quit their jobs.

Garland et al. (1989) also found that supervision is positively associated with job satisfaction. NAs who participated in the study ( $N = 138$ ) were recruited from 45 randomly selected nursing homes in Ohio. Researchers examined different aspects of work (e.g., supervisor’s expectations, communication, and evaluation of job performance, access to supplies and information, adequacy of training, family-work conflicts) and how they affect job satisfaction. Overall job satisfaction was measured using a previously developed six-item scale. When correlations among variables were examined, supervision was most strongly associated with job satisfaction ( $r = .48$ ), followed by the frequency of personal recognition NAs received from supervisors ( $r = .34$ ). NAs had higher levels of job satisfaction when they felt that their supervisors provided adequate information, demonstrated clear expectations and evaluations, and respected their opinions.

An Australian study identified that professional support, including the amount of support and guidance, the opportunities to discuss concerns, quality of supervision, and respect

and fair treatment from superiors was a major component driving staff satisfaction. Chou, Boldy, and Lee (2002) assessed relationships among five components of staff satisfaction (i.e., personal satisfaction, workload, team spirit, training, and professional support) in residential elder care. Data were collected from 983 staff working at 70 randomly selected long-term care facilities in Western Australia. Participants included 610 nursing home employees and 38% of them were NAs. The Measure of Job Satisfaction developed by the researchers was used to assess five components of job satisfaction. Results of structural equation modeling of staff satisfaction indicated that satisfaction with professional support has a strong and positive effect on all aspects of staff satisfaction in the sample of nursing home employees.

Further, previous studies identified the association between supervision and turnover. Parsons et al. (2003) found that satisfaction with supervision (i.e., supervisory support, equality in supervision, and supervision competence and skill) was significantly related to overall job satisfaction and turnover. Brannon et al. (2007) identified that direct care workers in nursing homes who perceived higher quality supervision in the aspects of support and structure were more likely to stay on the job. Bishop et al. (2008) found that basic supervision (i.e., perceived respect, help, and feedback from supervisors) was a strong predictor of intent to stay among CNAs. Among the studies that used the NNAS data, Stearns and D'Arcy identified that positive supervisor qualities affected intent to leave and job search behavior. On the other hand, Decker et al. (2009) found favorable assessment of supervisor behavior was associated with overall job satisfaction, but not with intention to leave.

*Peer support.* Supportive relationship with coworkers is another significant determinant of job satisfaction of direct care workers. While positive contact with a supervisor provides guidance and feedback, contact with peers help workers cope with work stress by

feeling comfort and friendship, establishing a sense of identity, and developing problem-solving skills (Eustis, Kane, & Fischer, 1993). Ramírez et al. (1998) identified that frequency of attendance at support group meetings where staff can discuss their feelings in caring for difficult residents was related to job satisfaction among NAs. Parsons and colleagues (2003) found that coworker support predicted job satisfaction among NAs. Also, in the study of Schaefer and Moos (1996), coworker cohesion (i.e., how friendly and supportive employees are to each other) was positively associated with job satisfaction and intent to stay. Likewise, Robison and Pillemer (2007) reported that nursing staff who were close to coworkers were more satisfied and less likely to quit the job.

*Positive interactions with residents.* According to Herzberg et al. (1993), the client relationship, doing a complete job for a client or a group of clients inside or outside the organization, is the most frequent source of satisfaction with the work itself in service jobs and is central to motivation and job satisfaction. Marshall and Barnett (1993) also suggested a sense of reward of helping others can lead to less psychological distress, and improved emotional well-being and physical health. In the follow-up qualitative interviews conducted by Tyler et al. (2006), CNAs expressed the significance of interactions with residents as a source of intrinsic feedback. Through the interactions, CNAs were able to see the results of their work, such as improved health or resident quality of life. Receiving appreciation from residents also gave them a sense of pride and meaning in their work. Similarly, Parsons and colleagues (2003) found that satisfaction with social rewards (i.e., making a difference in the lives of the residents and feeling close to residents and being needed) was related to overall job satisfaction among NAs. Brannon et al. (2007) also found that nursing home care workers who perceived helping others, being needed, and making a differences in others' lives as the rewarding aspects of work were more



likely to stay in the job.

Being able to provide quality care is an important factor that also affects CNA turnover. Castle and colleagues (2007) found that NAs' satisfaction with the quality of care they provide and the impact they have on residents' lives were related to job search behavior and actual turnover. In Anderson and colleagues' study (2004), greater CNA hours per resident day was related to lower CNA turnover. Researchers suggested that when CNA hours per resident day were higher, CNAs were more likely to feel greater satisfaction in being able to take time to do a good job and to spend time with residents.

### *Job Demands*

Job demands are related to structural, physical, and emotional working conditions. Structural demands include unsupportive management practices, particularly those related to staffing, scheduling, and shift rotation. Physical demands are related to quantitative workload. Emotional demands include stress related to interpersonal relationships with coworkers, supervisors, residents, and residents' family members.

### *Structural Demands*

Unsupportive management practices can be a great source of frustration and negatively affect the perceptions of CNAs. Bowers and colleagues (2003) conducted in-depth interviews with 41 CNAs currently ( $n = 32$ ) and formerly ( $n = 9$ ) employed by three nursing homes. The purpose of the study was to understand how CNAs employed in long-term care facilities conceptualized the factors that cause them to leave their jobs. In interviews, CNAs described their dissatisfaction with a range of organizational policies and practices, including staffing policies, absenteeism policies, training and orientation practices, and low compensation. CNAs perceived that these policies and practices represented the organization's lack of appreciation

and devaluation of their work.

Several studies have reported CNAs' dissatisfaction with staffing and scheduling. In Schaefer and Moos' study (1996), staffing and scheduling stressors were shown to have the largest impact on staff satisfaction and intent to stay. Ejaz et al. (2008) also found that scheduling changes (e.g., coming in early, staying late, being called to work on a day off) were negatively associated with overall job satisfaction of direct care workers both in facility and community settings. Castle et al. (2007) identified that dissatisfaction with work schedule which represents time pressure, affected turnover intention, job search behavior, and actual turnover. In the study of Karsh et al. (2005), having a work schedule meeting one's need was the only job characteristics related to having higher odds of staying. Moreover, NA staffing levels have been found to be negatively associated with turnover (Donoghue & Castle, 2007).

Shift rotation is another issue CNAs experience. In Bowers et al.'s study (2003), CNAs described stress related to frequent shift changes that disrupted their relationships with residents. They were particularly dissatisfied with the management practice of rotating experienced staff out of their usual assignment to cover short-staffed units. They felt that managers discounted and dismissed their experience, skills, and knowledge of the residents. Montoro-Rodriguez and Small (2006) also found that frequency of shift rotation was negatively associated with staff job satisfaction. In fact, it was the only significant work demand factor affecting job satisfaction in the study.

Burgio, Fisher, Fairchild, Scilley, and Hardin (2004) examined the effects of staff assignment and work shift on job satisfaction and turnover among CNAs in four nursing homes in Alabama ( $N = 178$ ). Of the nursing homes which participated in the study, two were self-identified as using permanent assignment (PA) staffing and two as using rotating assignment

(RA) staffing. The Job Satisfaction Index was used to measure seven dimensions of job satisfaction on a 5-point Likert scale: work demands, relations with coworkers, administrative support and training of staff, degree to which the job is challenging, financial compensation, attractiveness or cleanliness of the environment, and overall satisfaction. CNA turnover was calculated by dividing the proportion of CNAs who left their jobs during the data collection period by the number of CNAs working at a facility during the same time period. Although there were no differences in turnover rates, compared to workers in RA nursing homes, CNAs working in PA nursing homes scored higher on job satisfaction.

### *Physical Demands*

Researchers have identified the association between quantitative workload and job dissatisfaction. In the Ramírez et al. (1998) study, NAs who had higher proportions of residents who were incontinent and those who felt they had a heavy assignment were less satisfied with their jobs. Karsh et al. (2005) found that work pressure was negatively associated with intrinsic and extrinsic job satisfaction. Hasson and Arnetz (2007) also reported that perceived work stress related to lack of time for planning and executing tasks was negatively associated with overall satisfaction. Among the subsample of the NNAS, Bishop and colleagues (2009) identified not having enough time to carry out ADL tasks for residents or enough time for other tasks was related to lower job satisfaction.

Accordingly, heavy workload has been found to be related to turnover. Brannon and colleagues (2007) identified that intention to leave among care workers in nursing homes was influenced by work overload (e.g., having too much work, experiencing emotional and physical demands). Further, Robison and Pillemer (2007) found that nursing staff who experienced time pressure (i.e., being short of time to accomplish the required tasks) had lower job satisfaction and

were more likely to leave the job.

### *Emotional Demands*

Care work is not only physically, but also emotionally demanding. Hasson and Arnetz (2007) found work-related exhaustion (feelings of emptiness after work), and mental energy (e.g., feelings of restlessness, irritability, worry) were associated with overall job satisfaction. Caring for individuals with dementia and not having enough time for work tasks were the major sources of emotional stress. Ejaz et al. (2008) examined the association between job-related physical and emotional health changes since becoming a direct care worker and the level of job satisfaction. They found that direct care workers who reported worsened physical and emotional health since working as a direct care worker and those who had higher depression scores were more likely to have lower job satisfaction.

Previous studies have identified that stress related to interpersonal relationships at work significantly affect job satisfaction. VonDras, Flittner, Malcore, and Pouliot (2009) examined the association between various workplace stressors and job satisfaction. A brief self-report survey was administered to 44 members of the nursing staff, including CNAs ( $n = 33$ ) and nurses ( $n = 11$ ), in a nonprofit nursing home. Survey items asked respondents whether they had ever felt frustrated, angry, overwhelmed, upset, irritated, or stressed-out while working with residents. Respondents were also asked to describe specific situations when they felt emotionally stressed. Overall job satisfaction was measured by two items, “How personally fulfilling is your job?” and “How satisfying is your job?” Results of correlation analyses indicated psychological stress on the job was adversely associated with job satisfaction ( $r = -.36$ ). Content analyses of the qualitative responses identified negative interactions with residents, such as being verbally abused by unsatisfied residents, as the most frequent source of stress of nursing staff. Other

reported workplace stressors included issues related to coworkers (e.g., lack of teamwork) and residents' family members (e.g., excessive demands).

Secrest, Iorio, and Martz (2005) conducted in-depth interviews with 11 NAs in four nursing homes. The purpose of the study was to explore the meaning of work for NAs who stay in long-term care. In the interviews, family members of the residents were described as a source of hostility. Participants reported family members making excessive demands and baseless accusations against workers. Robison and Pillemer (2007) found that nursing staff members who had experienced arguments or conflicts with family members of residents and who perceived their behaviors as unfavorable were more likely to have low job satisfaction. The frequency of conflicts with families was also related to intent to leave the job.

In a study conducted by Schaefer and Moos (1996), relationship problems with supervisors and physicians, such as having conflict or not getting help from them when it was needed, strongly and negatively affected job satisfaction and intent to stay of staff in long-term care facilities. Bowers et al. (2003) also found that supervisory relationships were central to the problem of turnover. CNAs in their study reported many instances when charge nurses and other supervisory personnel led them to feel personally and professionally dismissed and minimized. For example, they experienced being treated as stupid or invisible by their supervisors.

Furthermore, perceived racism at work can cause CNAs a great deal of stress (Berdes & Eckert, 2001; Pfefferle & Weinberg, 2008). Jervis (2003) explored relationships among staff members in a nursing home through semistructured, individual interviews ( $N=16$ ). NAs described perceived lack of respect and racial discrimination from administrative and supervisory staff. NAs viewed top staff members, all of whom were white women, as racist.

Ejaz et al. (2008) also identified that frequency of racial or ethnic remarks from other staff and total negative interactions on the job were related to job satisfaction of direct care workers.

### *Personal Resources*

Coping skills and self-esteem have been suggested to have positive effects on job satisfaction of CNAs (Cohen-Mansfield & Noelker, 2000). Montoro-Rodriguez and Small (2006) examined how coping skills related to staff-resident interactions affected job satisfaction of nursing staff. Multivariate analyses indicated that cooperative conflict resolution styles were positively associated with job satisfaction ( $\beta = .15$ ). That is, staff who preferred to make efforts to work together to reach a settlement when they encountered conflicts were more satisfied with their jobs.

Although self-efficacy and self-esteem have been found to be the important personal resources in other occupational fields (e.g., Bakker, Demerouti, & Schaufeli, 2005; Prieto et al., 2008; Xanthopoulou et al., 2007), these two concepts have not been well-studied among CNAs. Among the previous studies that were reviewed, only two included self-efficacy and their findings were mixed. Brannon et al. (2007) examined the effect of self-efficacy (i.e., having learned the skills necessary to do the job well and self-confidence) on intent to leave, but there was no association between the two. Decker et al. (2009) also examined how confidence in one's own ability to do the job affected intrinsic and overall job satisfaction and intention to leave. A significant association was found only with intrinsic job satisfaction.

Other personal resources that have been investigated are previous training and informal caregiving experience. Using a sample of 212 direct care workers who provide paid Alzheimer's care, Coogler, Parham, and Young (2007) found that those with prior training in gerontology and geriatrics had lower levels of extrinsic job satisfaction measured by the MSQ. Such workers also

had lower levels of career resilience than those without prior training. Researchers suggested that an inability of applying learning in the work environment may explain the negative association between previous training and job satisfaction. The study also found that workers with experience of being the primary caregiver for a friend or relative with Alzheimer's disease had higher levels of intrinsic job satisfaction and lower levels of career resilience than those without such experience. Researchers interpreted that informal caregiving experience may increase personal commitment to pursue formal care work and contribute to greater intrinsic job satisfaction. Yet, when workers find their expectations for care, such as having close relationships with residents, were different from the real practices, their career resilience may have been diminished.

### *Personal Demands*

There is limited information on the effects of personal demands on work outcomes of CNAs. However, several qualitative studies reported CNAs' struggles to juggle family and work responsibilities. For example, through focus group interviews with 14 female nurses and 12 CNAs, Bullock and Waugh (2004) found that these women were engaged in "caregiving around the clock" (p. 776). In addition to their paid care work, many of them had multiple caregiving responsibilities related to their families. Because of their excessive work demands, participants were concerned that they had little energy and time left to give to their families. They described their inability to get housework done and constant exhaustion. Also, with clear frustrations, CNAs in the study described their financial and family oriented hardships that were interfering with their career development. Supporting such findings, Garland et al. (1989) identified that NAs who experienced family and work conflicts (i.e., job and family life interfered with each other) had lower job satisfaction.

Noelker, Ejaz, Menne, and Jones (2006) investigated the effects of job-related and personal stressors, personal and facility characteristics, and social support in the workplace on satisfaction with supervision. The data were collected from 338 NAs from 22 skilled nursing facilities in Ohio. The study identified that personal stressors (i.e., family concerns, financial worries, job-related health and mental health changes, and depression) had the greatest negative impact on satisfaction with supervision. Researchers suggested that NAs are more likely to appreciate supervisors who are aware of their personal concerns and are responsive to their requests, such as flexibility in scheduling or time off to deal with family issues. Based on the findings, researchers hypothesized that direct care workers are more likely to be satisfied with their job when their workplaces offer Employee Assistance Programs (EAPs) to help them manage their financial and family problems more effectively.

### *Demographic Factors*

#### *Age*

Older age has consistently been identified as a strong predictor of job satisfaction among nursing home care workers (Castle et al., 2006; Grau et al., 1991; Karsh et al., 2005; Kiyak et al., 1997; Schaefer & Moos, 1996; Zimmerman et al., 2005). Accordingly, older workers are less likely to think about quitting and leave the job than younger workers (Brannon et al., 2007; Grau et al., 1991; Karsh et al., 2005; Kiyak et al., 1997; Schaefer & Moos, 1996). For example, Kiyak et al. (1997) studied how personal characteristics (i.e., age, marital status, and training), job characteristics (e.g., type of work, length of employment), and attitudes (i.e., affect toward clients and elders) affect job satisfaction and turnover of female workers serving older persons. Of 308 study participants, 258 were employees of six nursing homes. The JDI was used to measure job satisfaction. Intention to leave the job was assessed through responses to the



question, “Taking everything into consideration, how likely is it you will try to find another job within the next year?” A series of multiple regression analyses identified that age had a strong effect on job satisfaction ( $\beta = .19$ ) and on actual turnover ( $\beta = .36$ ). Older workers were more satisfied, had less intent to leave, and stayed on the job. Karsh et al. (2005) also found that older nursing staff members were more satisfied with intrinsic and extrinsic factors in their jobs and were more likely to intend to stay at their facilities.

### *Education Level*

Workers with higher education levels have been found to be less satisfied with their jobs and more likely to leave than those who have limited education (Brannon et al., 2007; Grau et al., 1991; Grieshaber, Parker, & Deering, 1995; Karsh et al., 2005). Grieshaber and colleagues (1995) studied job satisfaction of NAs in two nursing homes in Missouri, one in an affluent suburban neighborhood ( $n = 32$ ) and the other in economically depressed urban areas ( $n = 47$ ). Job satisfaction was measured by administering the short form of the MSQ. Researchers found inverse correlations between education level and over all job satisfaction among NAs at the suburban nursing home. Karsh et al. (2005) also reported that respondents with some college education were less extrinsically satisfied than those with up to a high school degree. Furthermore, in the Brannon et al. (2007) study, nursing home care workers with greater than a high school degree or its equivalent were three times more likely to be in the “very likely to quit” group.

### *Gender*

In most of the studies conducted in nursing homes, approximately 90% to 100% of participants were female (e.g., Grau et al. 1991; Karsh et al., 2005; Kiyak et al., 1997; Parsons et al., 2003; Zimmerman et al., 2005). In addition, a few studies did not report gender of study

participants (e.g., Allensworth-Davies et al., 2007; Garland et al., 1989; Grieshaber et al., 1995; Ramírez et al., 1998). Among studies that were reviewed, only Castle et al. (2006) reported the gender differences in job satisfaction. In that study, male workers were less satisfied with work than females.

### *Race and Ethnicity*

Several studies have found that minority workers were less satisfied with their jobs than nonminority workers. Ramírez et al. (1998) reported that being Jamaican or Haitian/African Caribbean predicted lower levels of satisfaction. Karsh et al. (2005) identified that native English speakers were more satisfied with the intrinsic factors in their jobs. In addition, white workers were more likely to intend to stay at their facilities. Zimmerman et al. (2005) also found that job satisfaction was higher among workers who are not Black. Moreover, Ejaz et al. (2008) reported that minority direct care workers had lower levels of job satisfaction.

On the other hand, in the study conducted by Schaefer and Moos (1996), being of Asian origin was associated with job satisfaction, stronger intent to stay in the job, and less job-related distress, depression, and physical symptoms. Also, Castle et al. (2006) found that African American caregivers were more satisfied with their work environments in areas such as management practices and relationships with coworkers.

### *Length of Employment*

Several researchers reported that the length of employment and the level of job satisfaction are correlated. Grieshaber et al. (1995) found that both job tenure and occupational tenure were positively associated with job satisfaction of NAs working in a suburban nursing home. Kiyak et al. (1997) also found that the length of time employees had worked at their facilities was negatively associated with turnover intention and actual turnover. Those who

worked longer were less likely to think about quitting their jobs and leaving. Moreover, Robison et al. (2007) identified that longer years working in any nursing home, thus more years working in the nursing home industry, was related to less likelihood of leaving the job in the next 12 months. Similarly, Decker et al. (2009) found that CNAs who had more years of experience as NAs as well as in the facility were less likely to think about leaving their jobs.

On the contrary, some researchers have found that workers with longer tenure were less satisfied. Karsh et al. (2005) found that nursing home employees who had longer tenure were less extrinsically satisfied than those with the least tenure. Castle et al. (2006) reported that nurses and NAs who have been on the job for one to five years were generally less satisfied than those who have been there for either less than one year or more than five years.

#### *Shift and Employment Status*

A few studies have identified shift and employment status as predictors of job satisfaction. In a study by Burgio et al. (2004) CNAs on the evening shift had higher turnover rates than those on the morning shift. Karsh et al. (2005) also found that night shift workers were less satisfied than day shift workers. In addition, nursing home employees working 40 hours per week compared to those working less were more likely to intend to stay at their facilities. On the other hand, Castle et al. (2006) found that full-time caregivers were less satisfied with pay than part-time workers, but more satisfied with the work.

#### Summary and Critique of Empirical Literature

Table 2.1 summarizes job and personal demands and resources that have been identified to be related to job satisfaction and retention of CNAs working in nursing homes.

Table 2.1

*Job and Personal Resources and Demands Affecting Job Attitudes CNAs*

Resources	Demands
<u>Job</u>	
Institutional/structural level	
Supportive organizational policies	Unsupportive management practices
Perceived quality of care	
Adequate salary and benefits	
Opportunity for advancement	
Adequate facility resources	
Work task level	
Autonomy and job control	Excessive workload (physical)
Participation in care planning	
Task and role clarity	
Interpersonal level	
Supervisory support	Negative interpersonal relationships with
Peer support	coworkers, supervisors, residents, and
Positive interactions with residents	residents' family members
	Perceived racism (emotional )
<u>Personal</u>	
Coping skills	Financial worries
Self-esteem	Family concerns
Self-confidence	Health and mental health issues
Self-efficacy	
Previous education and training	
Informal caregiving experience	

Although no studies that were reviewed explicitly applied the framework of the JD-R model, their findings supported the central proposition of the model: High job demands and low job resources lead to negative employee outcomes. Thus, changing the work environment by tackling the sources of demands and increasing resources should lead to improvement of job satisfaction, job retention, and other individual and organizational outcomes.

A review of the research indicated two important areas that need further study. First, there is a need for larger scale and more comprehensive research in the field. Only a few studies used representative samples across facilities or states. Thus, previous findings have limited generalizability. In addition, many studies have focused on the limited number of predictor variables. In order to understand the issue and explore the effective intervention methods, it is necessary to conduct more extensive studies examining psychosocial factors affecting these direct care workers.

Second, very limited attentions have been paid to personal demands and resources that may affect job behavior of CNAs. CNAs, who are typically low income, minority or immigrant women with dependents often struggle with economic pressures, multiple care responsibilities, and lack of support mechanisms (Bullock & Waugh, 2004; Cohen-Mansfield & Noelker, 2000; Tellis-Nayak & Tellis-Nayak, 1989). As people rarely succeed in segregating work and personal life (Bakker et al., 2005), such hardships CNAs encounter outside of the work setting may have an impact on their job commitment. Conversely, individuals may bring their own personal resources and strengths to the workplace to cope with stress and maintain their job performance (Cohen-Mansfield, 1995). Further investigations are needed to examine how these personal aspects of CNAs affect their job satisfaction and retention.

Understanding the connections between personal factors and work outcomes is

particularly helpful for the development of staff training and the EAPs. Finding the negative impact of personal concerns on NAs' satisfaction with their supervisors, Noekler and colleagues (2006) suggested that continuing education programs for those in supervisory positions in long-term care should help sensitize them to the importance of treating direct care workers as individuals with complex lives. In addition, since personal matters of CNAs are usually beyond supervisors' responsibilities, Temple, Dobbs, and Andel (2009) discussed the importance of EAPs to help CNAs manage their personal and work-related stress more effectively. Such programs may help CNAs focus more on their work, thus become more committed and satisfied. Furthermore, although it was in the home care setting, Donovan, Kurzman, & Rotman (1993) described collaborative efforts of social workers and a labor union to improve quality of work lives of direct care workers. In the project, social workers addressed financial and family concerns of individual workers while the union was engaged in political activities to advocate for their rights. These studies that focused on personal issues of care workers indicate that addressing the direct care workforce issues requires examining their lives more holistically, rather than just focusing on their behavior in work settings.

### The Current Study

#### *Goals of the Study*

The current study aimed to identify job related and personal factors affecting job satisfaction and job search behavior of CNAs working in nursing homes. The central goal of this study was to apply and expand the framework of the JD-R model and identify specific demands and resources that may be relevant in this occupational context. Despite empirical support for the model in other occupations, the review of available research showed that it had not been applied to CNAs. In addition, the current investigation expanded the JD-R model by examining how

personal resources and demands affect job outcomes. Further, by using the nationally representative database, this study aimed to obtain a more comprehensive picture of the experiences of CNAs in the United States.

### *The Conceptual Model*

The conceptual model of the proposed study is presented in Figure 2.1. The model explains that job satisfaction is influenced by five categories of predictor variables, namely, job resources, job demands, personal resources, personal demands, and demographic characteristics. These five categories of predictor variables are directly associated with job satisfaction and indirectly with job search behavior. In addition, job satisfaction directly affects job search behavior. The specific variables included in the five categories will be detailed in Chapter 3.

### *Research Questions and Hypotheses*

The following research questions were posed for the current study:

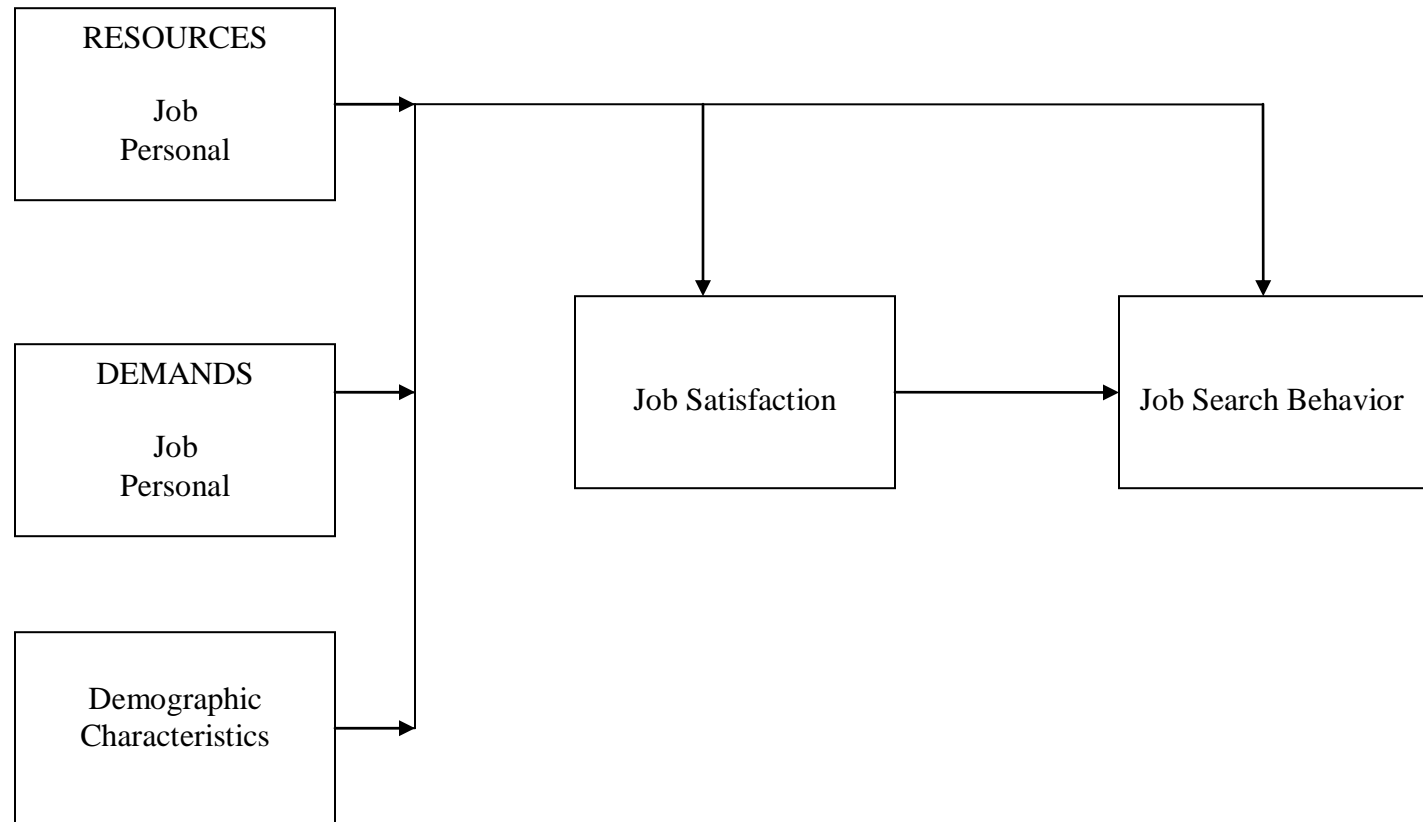
1. How do job resources, job demands, personal resources, personal demands, and demographic characteristics predict job satisfaction of a nationally representative sample of CNAs working in nursing homes?
2. How do job resources, job demands, personal resources, personal demands, and demographic characteristics predict job search behavior of CNAs?
3. To what extent does the level of job satisfaction predict job search behavior of CNAs, after controlling for job resource, job demand, personal resource, personal demand, and demographic variables?

Since the first and second questions were exploratory, no hypotheses were formulated. For the third question, on the basis of the framework of the JD-R model and the findings of previous studies, one null hypothesis was formulated: The level of job satisfaction is not

predictive of job search behavior of CNAs after controlling for the effects of job resource, job demand, personal resource, personal demand, and demographic variables.



Figure 2.1. Conceptual model for examining job satisfaction and job search behavior of CNAs.



## CHAPTER III

### STUDY DESIGN AND METHODS

As described in previous chapters, using data from the National Nursing Assistant Survey (NNAS), the current study examined how job demands, job resources, personal demands, personal resources, and demographic characteristics affect job satisfaction and job search behavior of Certified Nursing Assistants (CNAs) working in nursing homes. This chapter first discusses advantages and limitations of secondary analysis of survey data. Then it provides an overview of the NNAS, including its study design, sampling, measurement, and data collection process. Finally, it presents the data analysis plan used in the study.

#### Secondary Analysis

##### *Advantages*

Secondary analysis of data is “a form of research in which the data collected and processed by one researcher are reanalyzed, often for a different purpose, by another” (Rubin & Babbie, 2005, p. 304). The primary advantage of secondary analysis is its potential for resource savings in respect to both money and time. Compared to primary research, secondary data analysis generally requires less money, less time, and fewer personnel and is therefore attractive when the funds available for research are limited or uncertain. Many available datasets cover many topics, time periods, and countries and provide the benefits of nationally representative samples, standard items, and standard indices. In particular, using large data survey files that are collected from a nationally representative sample allow researchers to generalize their findings to

a national level, an ability that is particularly important for policy research and program development. The large sample size also gives researchers enough statistical power to estimate the existence of weak to moderate associations between variables of interest, which is not possible using smaller sample sizes (Lum, 2006). In addition, the use of existing data offers researchers the opportunity to directly build on others' findings. The inclusion of the same measures to the analysis can ensure comparability while continuous incorporation of new items lead to new findings (Kiecolt & Nathan, 1985).

The use of a secondary database gave a number of strengths to the current study. First, as indicated in the literature review in Chapter 2 many studies of CNAs have had small sample sizes. The NNAS is the first opportunity for researchers to access a comprehensive database regarding CNAs. Second, federal funding of the study allowed for the provision of adequate monetary incentives that have likely increased the number of respondents, something that would be impossible for an unfunded dissertation project to do. Third, the standardized measures used were sufficient to test the theoretically-based model previously identified. The database includes information on various aspects of job and personal lives of CNAs that can be incorporated into the study model.

### *Limitations*

Secondary analysis also has limitations. Besides the issues related to availability and access to the data itself, the major limitation is that the original survey may not contain all the variables of interest to the secondary researcher. Even when it does, there may be too few indicators of a concept for reliable measurement. In that case, the researcher needs to develop creative schemes, such as combining several items, in order to measure concepts of interest (Kiecolt & Nathan, 1985).

Quality of data can also be an issue in secondary analysis. Any methodological issue in the original data collection process directly affects the quality of secondary research. Secondary researchers must have complete and accurate documentation and information about the dataset. However, oftentimes in the final dataset or documentation, errors made in original surveys are no longer visible, and it is impossible to differentiate interviewing, coding, and data entry errors (Kiecolt & Nathan, 1985). Some variables might be inadequately operationalized to be useful for secondary analysis (Riedel, 2000).

Furthermore, without clear research questions and overriding theoretical orientations, the use of existing data may inhibit creativity and threaten scientific progress. Kiecolt and Nathan (1985) stated that researchers should not formulate questions solely because the particular dataset is available or the variables contained therein. Rather, they should be guided by theory in order to conduct research that is valuable to social science.

### The NNAS<sup>1</sup>

#### *Background and Purpose*

The NNAS is the first federally funded, national probability sample survey of nursing assistants employed in nursing homes. In fiscal year 2002, responding to the growing concern with the quality and availability of the long-term care workforce, Congress requested the Department of Health and Human Services (DHHS) and the Department of Labor (DOL) to make comprehensive recommendations to address the increasing demand of an aging population. One of the recommendations DHHS and DOL made was to support research activities to inform policymakers on the factors causing the labor force imbalance (DHHS, 2003).

In 2003, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) decided to fund the NNAS that was collaboratively conducted by two independent research

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<sup>1</sup> Otherwise noted, this section was written based on the report of Squillace and colleagues (2006).

organizations, a national advisory group, private consultants, and a sustained partnership with the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). The main objectives of the NNAS were to describe CNAs' work experience and understand what changes in their working conditions, wages, benefits, and career growth would make the job more attractive and promote job satisfaction and job retention. The ultimate goals of the survey were to provide useful information to strengthen federal, state and provider efforts to recruit and retain a qualified and committed workforce and to address the long-term care direct care workforce shortage issues.

### *Sampling*

The NNAS was conducted as a supplement to the 2004 National Nursing Home Survey (NNHS) which is a nationally representative sample survey of nursing homes. Since 1973, The NNHS has been periodically conducted to investigate the services, staff, and residents of nursing homes in the United States. For the 2004 NNHS, 1,500 facilities were selected from a sampling frame of 16,628 nursing homes first using stratified sampling by certification status, ownership, and geographical location then using systematic random sampling with probability proportional to bed size.

Of 1,500 nursing homes in the NNHS sample, 790 facilities were randomly selected for the NNAS. Of them, 582 facilities agreed to participate in the survey and provided a list of employed NAs for sampling. At each of the sampled nursing facilities, NAs were stratified by tenure and four short-term (less than one year) and four long-term (one year or longer) workers were randomly selected. NAs were eligible to participate in the NNAS if they were paid to provide assistance with ADLs, were certified, or in the process of certification, worked at least 16 hours per week, were employees of the nursing home, and were able to communicate either in

English or Spanish. The NNAS excluded NAs who were not certified, unless they were in the process of certification or started work as a NA prior to 1987, who were employed through contractual arrangements, who worked less than 16 hours per week, and who only provided assistance with instrumental ADLs. A total of 4,274 CNAs from the 582 facilities were eligible and 3,017 completed an interview, yielding a response rate of 70.6% among eligible workers.

### *Data Collection*

The NNAS was approved by the NCHS Institutional Review Board (IRB). Participation in the survey was voluntary and the voluntary nature of the survey was emphasized throughout the data collection process. Information that can identify individual participants and facilities is kept confidential and is not included in the public use file. Also, information obtained from the survey is used solely for statistical research and reporting purposes.

In order to inform potential respondents about the survey, the advance contact materials, including a copy of letters that explain the survey and the flyer to be posted in the facility, were first sent to the selected nursing homes. During the on-site interviews with administrators for the NNHS, facilities that agreed to participate in the NNAS were asked to provide a list of NAs employed by the facility with an identification of whether their tenure was less than one year or one year or more. After reviewing the list with the facility administrator, The NNHS field staff randomly selected eight CNAs within each sampled facility. Administrators were then asked to provide contact information for the selected CNAs as well as distribute the information packets to the individuals. The packets included materials like an introductory letter, informed consent letter, \$5 prepaid incentive, DVD to explain the survey, and a return postcard NAs could complete if they wanted to participate in the survey.

From 2004 to 2005, telephone interviews by trained survey staff were conducted with

NAs who either called in on the NNAS 800 toll-free line or were contacted by an interviewer using the telephone number provided by the facility or by the returned postcard. Verbal consent was obtained at the beginning of the telephone interview. Interviews were conducted either in English or Spanish during nonworking hours and each interview lasted approximately 40 minutes. Telephone interviewers entered responses directly into the computer-assisted telephone interview system.

In case the selected NAs did not return the postcard or called the toll-free number to participate in the survey within three weeks, facilities were asked to provide additional contact information or remind the NAs about the survey. Eligible NAs who were no longer working at the facility when contacted ( $n = 120$ ) completed a set of facility leaver questions. All participants received a \$30 check, in addition to the \$5 prepaid incentive, after the interview was completed.

### *Measurements*

The survey instrument was designed with input from ASPE and members of the technical advisory panel. In addition to screening questions that determined eligibility, the final survey instrument consisted of ten modules: (a) recruitment, (b) education, training, and licensure, (c) job history, (d) family life, (e) management and supervision, (f) client relations, (g) organizational commitment and job satisfaction, (h) workplace environment, (i) work-related injuries, and (j) demographics. Table 3.1 presents a brief overview of each area. CNAs who had already left the facility at the time of the interview completed a separate section of the survey. In order to capture cross-cultural differences across languages, the Spanish-language version of instrument was adapted from English.

Table 3.1

*An Overview of the NNAS Questionnaire*

Sections	Number of Items	Main Subjects
Recruitment	7	Reasons for becoming a NA The length of experience as a NA
Education, training, and licensure	19	Adequacy of initial training Nature and usefulness of continuing education
Job history	17	Past and current job experiences The length of employment in the current facility Work hours Salary and benefits
Family life	17	Transportation Family caregiving responsibilities Public assistance such as food stamp and cash welfare
Management and supervision	10	Quality of supervision
Client relations	8	Perceived respect and acknowledgement from residents, residents' families, and supervisors Time allocation and shift rotation
Organizational commitment and job satisfaction	14	Reasons for staying in current position Job satisfaction Intention to leave current job
Workplace environment	8	Organizational culture Social support
Work-related injuries	14	Types of injuries received Availability of equipment such as lifting devices
Demographics	10	Sociodemographic backgrounds such as age, gender, and race



Content validity of the final instrument was established by panel members who have expertise in survey methods, long-term care paraprofessional workforce issues, and health care policy. The initial instrument was tested using a convenience sample of CNAs in English and Spanish and was refined based on the results. Then, a pilot test was conducted using a sample of 63 CNAs from eight facilities that were selected using stratified sampling. Advance contact and interview procedures as well as study materials were modified based on the test results and feedback from the CNAs.

### *Survey Limitations*

There are four limitations to this type survey. First, while data from the NNAS can provide great insight into the experiences of CNAs working in nursing homes, there are also some limitations in the survey. First, the NNAS study design is cross-sectional, thus definitive causal relationships among variables cannot be established (Decker et al., 2009). In general, cross-sectional design allows the researcher to collect data from a large sample using multiple measurements, and has strong external validity, as it can achieve representativeness of the population. However, it usually has weak internal validity, meaning that the results of a study may be due to alternative explanations other than the proposed relationship between predictor and dependent variables (Rubin & Babbie, 2005).

Second, the nursing homes and CNAs that were selected and participated in the survey may be different from those that did not participate. According to Squillace et al. (2009), basic facility characteristics of participating nursing homes (i.e., ownership, bed size, geographic region, location, and affiliation) and those of all U.S. nursing homes are comparable. However, there may be other unmeasured characteristics that differentiate the experiences of CNAs in the study from those in non-participating homes. There also might be differences in characteristics of

participating and non-participating CNAs. It is possible that the employee list provided by each facility that was used to select CNAs was incomplete or selective. Furthermore, CNAs who were not able to be located or refused to participate in the survey may be different from those who participated (Squillace et al., 2009).

Third, the survey has insufficient sample sizes for items with low prevalence in the population. For example, making accurate estimates of responses to the items for male CNAs may not be possible as their prevalence is about 8%. Also, the usefulness of information collected from CNAs who left their facility is limited since the sample is small and not representative of all leavers (Squillace et al., 2006).

Fourth, there are several limitations in the instrument. The NNAS did not include items that may affect CNAs' job perceptions and behavior such as their assessment of coworker environment (Decker et al., 2009). In addition, even though working conditions can differ from unit to unit, related variables were measured at the facility level, rather than at the unit level (Bishop et al., 2009). The instrument also had some validity and reliability issues since it was newly created for the study and the researchers did not adopt pre-established measures. Further, many of the questionnaire items had "other specify" response options. Such open-ended responses could not be coded into a meaningful category or were of low prevalence and hence did not produce reliable estimates (Squillace et al., 2006).

### The Current study

#### *Sample*

Of the original 3,017 respondents of the NNAS, those who left their facilities before the interview ( $n = 120$ ) were excluded from the current study since the survey they completed did not include many variables of interest. The study sample of 2,897 CNAs represents 680,846

workers when weighted. As will be discussed, because of the exclusion of cases with missing values, the final sample used for multivariate analyses consisted of 2,432 workers, representing 566,530 workers when weighted. As will be discussed later, the STATA's subpopulation option was used to calculate standard errors correctly.

### *Operationalization of Variables*

There were two dependent variables in the current study: Job satisfaction and job search behavior. Predictor variables were those reflecting job resources, personal resources, job demands, personal demands, and demographic characteristics. Based on the review of literature, items that fall into one of these categories were selected from the original NNAS questionnaire. Table 3.2 presents variables that were included in this analysis. Initial preliminary analysis was conducted on the selected items to explore the number of cases in each category and cases with missing values. As presented here, some categories of variables were combined based on the initial analysis. All "Don't know" and "Refused" responses were treated as missing.

Table 3.2

*The NNAS Variables in the Current Analysis*

Category	Variable	Original Scale	NNAS item #
Job satisfaction	Satisfaction with current job	4	H1
Job search behavior	Currently looking for a different job, either as a NA or something else	3	H11
Job resources			
Institutional level			
Administrative climate	Respected/rewarded for work	4	I1a
	Values/appreciated for work	3	I4
Salary and benefits	Hourly wage	Ratio	D6a2
	Paid sick leave	Nominal	D8-a
	Paid holidays off	Nominal	D8-b
	Health insurance available	Nominal	D8a
Training	Initial training prepared NA to work	3	C6
	Had a helpful mentor or buddy for first job*	Nominal	C10&10a
	Paid for or offered training or continuing education classes	Nominal	C15
Facility resources	Availability of lifting devices	4	J10
	Lack of availability of other equipment or devices	Nominal	J12
Work task level			
Autonomy in decision making	Able to decide how to do own work	4	I1b
	Perceived trust to make resident care decisions	4	I1e
Opportunity for self-advancement	Involvement in challenging work	4	I1c
	A chance to gain new skills/knowledge	4	I1d
Interpersonal level			
Supportive supervisory practices	Assessment of supervisor quality (10 items)	4	F1a-j
	Supervisor values or appreciates NA's work	3	I3
	Perceived respect from supervisors as part of the health care team	3	G7
Peer support	Opportunity to work in teams	4	I1f
	Frequency of asking help from other NAs	4	I6

Table 3.2 (*continued*)

Category	Variable	Original Scale	NNAS item #
Positive interactions with residents and their family members	Perceived respect from residents as part of the health care team	3	G5
	Perceived respect from residents' families as part of the health care team	4	G6
	Perceived recognition from residents	3	G8
Job demands			
Structural level	Mandatory overtime	Nominal	D11
	Lack of continuous assignment	3	G4
	Problems with schedule	Nominal	H5
	New rules/procedures	Nominal	H5
Physical level	Work-related injuries in the past year	Ratio	J3
	Not enough time for assistance with ADLs.	3	G1
	Not enough time for other work	3	G2
	Workload issues	Nominal	H5
Emotional level	Lack of respect/appreciation for work	Nominal	H5
	Problems with supervisors or nurses	Nominal	H5
	Problems with coworkers	Nominal	H5
	Perceived racial/ethnic discrimination	Nominal	I18
Personal resource	Confidence in own ability to do the job	4	I1g
Personal demands	Number of children requiring child care	Ratio	E6b
	Caring for family/relative/friend with a disability or health problem	Nominal	E9
	Health or personal issues	Nominal	H5
Demographic characteristics	Age	Ratio	K1a
	Gender	Nominal	K1b
	Race/ethnicity	Nominal	K2&3
	Citizenship/immigration status	Nominal	K8
	Education level	Ordinal	K6
	Marital status	Nominal	K4
	Number of hours work per week	Ratio	D6
	Total experience as a NA	Ratio	B4
	Number of months employed in the facility	Ratio	D3al

Notes: \*Variable was created by combining responses of two items.

*Job satisfaction.* A single item question, “Overall, how satisfied are you with your job?” was used to measure overall job satisfaction. Participants reported their satisfaction level

on a 4-point scale, ranging from *extremely satisfied* =1 to *extremely dissatisfied* =4. Preliminary inspection of the data (see Table 3.3 for frequencies) found only 4.3% of the workers ( $n = 124$ ) reported that they were extremely dissatisfied. Thus, the responses were combined with 452 workers (15.6%) who reported “somewhat dissatisfied” to create a new “dissatisfied” category. Cases with “Don’t know” ( $n = 4$ ) and “Refused” ( $n = 2$ ) were recoded as missing.

Table 3.3

*Frequencies of Reported Job Satisfaction*

The level of Satisfaction	<i>N</i>	%
Extremely satisfied	845	29.17
Somewhat satisfied	1,467	50.64
Dissatisfied	576	19.88
Somewhat dissatisfied	(452)	(15.60)
Extremely dissatisfied	(124)	(4.28)
Missing	9	0.31
Total	2,897	100.00

*Job search behavior.* Participants were asked if they were actively looking for a different job either as a nursing assistant or something else. They responded either “Yes,” “No,” or “No, but thinking about it.” Only 109 workers ( $n = 3.8\%$ ) responded that they were thinking about finding a new job. Also, bivariate analyses identified that the “No, but thinking” category was not significantly related to most of the predictor variables. Thus, this category was combined with the “No” category, creating a “Not actively looking for a job” category. Cases with “Don’t know” ( $n = 3$ ) and “Refused” ( $n = 10$ ) were recoded as missing. Table 3.4 presents frequencies of reported job search behavior.

Table 3.4

*Frequencies of Reported Job Search Behavior*

Job search behavior	<i>N</i>	%
Currently looking for a job	745	25.72
Not currently looking for a job	2,133	73.63
Not looking for a job	(2, 024)	(69.87)
No, but thinking about it	(109)	(3.76)
Missing	19	0.66
Total	2,897	100.00

Although the reverse causal order is plausible, previous turnover models suggested job search behavior precedes intent to leave (Mobley, 1997; Price 2001). While both of them have been found to be significant determinants of voluntary turnover among health care workers (Holtom & O'Neil, 2004; Mitchell, Holtom, Lee, Sablinski, & Erez, 2001), this study focused on job search behavior rather than intent to leave because of its possible impact on quality of care. According to Mobley (1977), after evaluating availability of job alternatives, workers may decide to stay with their current jobs. However, they may exhibit other forms of withdrawal behavior such as absenteeism and passive job attitudes. Understanding possible factors driving CNAs to look for alternative jobs would be helpful in exploring preventive measures against actual turnover.

*Institutional resources.* There were four categories of institutional level resource variables included in the analysis: (a) positive administrative climate, (b) salary and benefits, (c) training, and (d) facility resources. The first category involved variables reflecting the CNA's report of whether she or he felt respected, rewarded, and valued by the employer. CNAs' perception of respect or reward from facilities was measured by a 4-point scale ranging from *strongly agree* = 1 to *strongly disagree* = 4. The item was dichotomized, combining *strongly agree* and *somewhat agree* as well as *somewhat disagree* and *strongly disagree*. In

addition, with a 3-point scale ranging from 1 = *very much* to 3 = *not at all*, CNAs indicated how much they think the facility as an organization values or appreciates the work they do as a NA. The response categories *somewhat* and *not at all* were combined to create a dichotomous variable.

The second category included variables related to compensation. In addition to hourly wages, CNAs were asked to report whether they had paid sick leave and paid holidays off as well as whether health insurance was available at work (yes/no). The third category related to CNAs' training experiences included three items: (a) Whether CNAs felt their initial training prepared them for the actual work in a nursing home (yes/no), (b) whether CNAs had a mentor or buddy for the first job as a NA and whether also they found the mentor or buddy as helpful (helpful/unhelpful/never assigned), and (c) whether the facility paid for or offered any training or continuing education classes (yes/no). The item concerning having a helpful mentor or buddy (yes/no) was created by combining the responses to two original dichotomous questions: "Was there a more experienced co-worker who was assigned to help you by answering questions?" and "Was having a mentor or buddy helpful to you in your first job as a nursing assistant?" Missing values in each item were collapsed into the "No" category so that only the affirmative responses were considered in the analyses.

The fourth category included two variables assessing adequacy of facility resources: (a) How often a lifting device was available when they actually needed to use it (always/sometimes/almost never/never) and (b) if there is any other equipment or devices that the facility does not have to make NA job safer (yes/no). For the first question regarding the lifting device, the response format was dichotomized into always ( $n = 2,508$ , 87%) versus the three other response categories.



*Work task level resources.* Variables related to autonomy in decision making and self-advancement opportunity at work are included as work task level resources. With a response scale ranging from 1 = *strongly agree* to 4 = *strongly disagree*, CNAs were asked whether they can decide on their own how to go about doing their work and whether they are trusted to make resident care decisions. Both items were dichotomized, combining strongly and somewhat agree categories as well as somewhat and strongly disagree categories.

The current analysis included two variables related to self-advancement: engaging in challenging work and having an opportunity to develop skills and knowledge. Engaging in challenging work that requires skill variety and application promote a sense of development and accomplishment (Barnett & Marshall, 1991). CNAs were asked whether they were involved in challenging work and whether they had a chance to gain new skills and knowledge on the job. Both questions were responded to using a 4-point scale ranging from 1 = *strongly agree* to 4 = *strongly disagree*. Both items were dichotomized (agree vs. disagree).

*Interpersonal resources.* Interpersonal resources are positive relationships with supervisors, coworkers, residents, and their family members. The NNAS has a series of 10 questions assessing the quality of the supervisor. Participants were asked whether the supervisor: (a) provides clear instructions when assigning work, (b) treats all NAs equally, (c) deals with NAs' complaints and concerns, (d) is open to new and different ideas, (e) is supportive of progress in NA's career, (f) helps NA with job tasks when needed, (g) listens when NA is worried about resident's care, (h) supports NAs working in teams with other health care workers, (i) disciplines/removes NAs not performing well, and (j) tells NAs when they are doing a good job. The 4-point response format went from strongly agree to strongly disagree. Following the procedures taken by Stearns and D'Arcy (2008), an index was constructed by counting the

number of times the NA strongly agreed with these statements. In addition, the analysis included two items: (a) whether NAs felt their work was valued or appreciated by the supervisor and (b) whether they were respected as a part of the health care team. The original 3-point scales were recoded to create binary variables (*very much or a great deal* vs. *somewhat* and *not at all*).

The participants' report on whether their jobs gave them the opportunity to work in teams was included as a direct reflection of their experience with coworkers (Bishop et al., 2009). Also, a measure that assessed the frequency of asking for help from other NAs with problems that relate to the job was included. The response categories *frequently* and *sometimes* as well as *once in a while* and *never* were combined to create a binary variable.

Positive relationships with residents and their family members were measured by assessing the degree of perceived respect from each group as part of the health care team. Participants rated each item on a 4-point scale ranging from 1 = *great deal*, 2 = *somewhat*, 3 = *not at all*, and 4 = *residents' families don't know me*. The latter three categories, from *somewhat* to *residents' families don't know* were combined to create a binary variable. In addition, with a 3-point scale (1 = *always or most of time* to 3 = *never happened*), CNAs were asked how often the residents they care for let them know when they are doing a good job. The item was dichotomized, combining *sometimes* and *never happen* categories.

*Structural demands.* Variables related to mandatory overtime and lack of continuous assignment were included as structural demands. Participants were asked whether they had ever been required to work mandatory over time even if they did not want to (yes/no). Also, they reported if they were assigned to care for the same residents on most days, different resident each day or week, or combination of the two. The response format was dichotomized into same residents versus the two other categories.

The NNAS had a question that asked participants to identify the types of problems or incidents at work that make it difficult for them to work there or cause them to dislike their job. Participants were presented with a list of typical workplace issues and asked if they were applicable to them (yes/no). The list included problems with supervisors or nurses, problems with co-workers, lack of respect/appreciation for work, pay or benefits, problems with schedule, new rules/procedures, workload, health or personal issues, and nature of the job. Of these, problems with schedule and new rules/procedures were included as structural demands.

*Physical demands.* Physical demands included work-related injuries, issues related to workload, and lack of time to provide care and carry out other work tasks. Participants reported number of times they were hurt or injured while working at the facility. The item was dichotomized into a variable representing whether the person was injured last year or not. There were two items concerning whether participants had enough time to give individual attention to residents who needed assistance with ADLs and whether they had enough time to perform other assigned tasks. Both items used a 3-point scale ranging from *more than enough time* to *not enough time*. Responses *more than enough time* and *enough time* were combined, creating a binary variable. In addition, CNAs' report on workload as a workplace problem (yes/no) was included as an indicator of physical demands.

*Emotional demands.* From the list of workplace problems, CNAs' responses to three dichotomous items (yes/no) that assessed perceived lack of respect/appreciation for work and problems with supervisors and coworkers were included as a source of emotional demands. In addition, perceived discrimination was measured by asking participants if they had ever been discriminated against because of their race or ethnic origin (yes/no).

*Personal resource.* The NNAS had one personal resource variable. It was

measured by the question, “I am confident in my ability to do my job” with a 4-point response format from *strongly agree* = 1 to *strongly disagree* = 4. A feeling of competence is considered to be a typical personal resource (Prieto et al., 2008). A binary variable was constructed with responses of *strongly agree*, the dominant response ( $n = 2,728$ , 94.72%), in one category and other responses collapsed together.

*Personal demands.* Variables related to caregiving responsibilities at home and health or personal issues were included as personal demands. CNAs reported number of children requiring child care while they are at work. The response was dichotomized into a variable reflecting if the worker had a child requiring care or not. Participants were also asked if they were providing unpaid care to a family member, relative, or friend who has a disability or health problem (yes/no). In addition, CNAs’ responses to an item assessing whether health or personal issues make it difficult for them to work were included in the analysis (yes/no).

*Demographic characteristics.* The eight worker characteristics included age, gender, race/ethnicity, citizenship, education level, marital status, number of hours worked per week, total experience as a NA, and number of months employed in the current facility.

### *Data Analysis*

*Survey estimates.* In order to obtain unbiased estimates for the national population of CNAs, statistics for CNAs were computed using a weight associated with each NNAS observation that was provided by the NCHS (DHHS, 2007a). The survey weights reflect the inverse of probability of being sampled, adjustments for non-respondent, and ratio adjustments. Specifically, Squillace et al. (2006) explained that weighting used the inverse of the product of three selection probabilities: (a) the probability of the facility being selected to the NNHS, (b) the probability of the facility being sampled in the NNAS, and (c) the probability of the NA being

selected within the sample NNAS facility. Accordingly, there are three types of non-response: (a) the selected facility did not respond to the NNHS, (b) the selected facility did not provide information of NAs employed, and (c) the selected NA did not respond. The final components of calculating weights involved ratio adjustment and smoothing. Ratio adjustments were made within each of the groups defined by region to adjust for over-or under-sampling of facilities reported in the sampling frame. Ratio adjusted weights were smoothed only if there were disproportionally large weights. By aggregating these weights, counts for national data can be obtained.

Weighting was utilized for all multivariate analyses in this study in order to generalize the results to a larger population. STATA 11 was used to incorporate the sample weights and account for stratification and clustering in the analysis. NCHS (DHHS, 2007a) provided statistical commands to calculate standard errors using SUDAAN, SAS, and STATA (DHHS, 2007a). Among these statistical programs, STATA was chosen because of its relative ease of use. STATA can handle most sampling designs and it has the most statistical procedures for survey data (Lum, 2006).

Following the instruction of NCHS (DHHS, 2007a), prior to analyses, 13 CNAs who were employed in facilities with only one respondent were moved into the nearest larger facility within the same stratum. In order to calculate the standard errors of the estimates correctly, the subpopulation option was used without deleting any cases from the original data file.

*Preliminary analysis.* Missing data, outliers, and multicollinearity were examined. If missing data within the dataset are not random in nature, they can cause serious problems when trying to generalize to the larger population from which the sample was obtained (Mertler & Vannatta, 2005). In order to examine if there was a pattern in the missing responses,

the values of each variable were first recoded into missing = 1 and others = 0. Bivariate analysis was performed on the recoded variables.

Stem-and-leaf diagrams and boxplots of ratio-interval variables were examined to determine if there were outliers. The bivariate correlations and variance inflation factor (VIF) were examined to identify potential problems of multicollinearity among the independent variables. For this analysis, each dichotomous variable was transformed into a dummy variable. In general, an intercorrelation of .80 or higher is considered to be very problematic (Licht, 1997). However, following the procedure taken by Ejaz et al. (2008), given the large number of predictors, this study used a more conservative cutoff of .50 for deciding to keep or exclude variables that are too similar.

*Research question 1.* A series of multinomial logistic regression analyses was conducted to examine the effects of job resources and demands, personal resources and demands, and demographic characteristics on overall job satisfaction. Logistic regression is a robust statistical procedure for modeling the relationship between one nominal-level dependent variable and several independent variables. It treats the dependent variable as a probability value that is the likelihood that a randomly selected case from a population has a particular combination of characteristics. Values of the dependent variable, given the values of several independent variables, are specified by maximum likelihood estimation. It involves finding a value for an independent variable that is most likely to generate the sample values of the dependent variable (Dattalo, 1994).

The log-likelihood is based on summing the probabilities associated with the predicted and actual outcomes. It is an indicator of how much unexplained information there is after the model has been fitted. Thus, the large values of log-likelihood statistic indicate poorly fitting

statistical models. The effect of an independent variable on a nominal outcome is usually represented by an odds ratio which is an indicator of the change in odds resulting from a unit change in the predictor (Mertler & Vannatta, 2005).

By using multinomial logistic regression analyses, the current study examined if and how job satisfaction (a categorical dependent variable) can be predicted from five categories of independent variables: job resources, job demands, personal resources, personal demands, and demographic characteristics. Job satisfaction was treated as a nominal variable as this study focused on examining group differences of satisfied and dissatisfied workers. In addition, using the same NNAS data set, Bishop et al. (2009) reported that the ordered logistic regression failed to meet standard criteria for the proportional odds assumption. For each category of predictor variables, logistic regression was conducted using job satisfaction as a dependent variable. Then, variables that were identified as significant at .05 level in each analysis were all entered into the final model.

There are several advantages in using a logistic regression. Unlike both discriminant analysis and multiple regression, logistic regression does not require the predictors to be normally distributed, linearly related, or have equal variances within each group. Also, it has the capacity to analyze predictor variables of all types, including continuous, discrete, and dichotomous (Mertler & Vannatta, 2005). For the analysis, the categorical predictor variables were either dichotomized or were included as dummy variables, where appropriate.

*Research question 2.* Since job search behavior was recoded as a dichotomous variable, for the second research question, a series of binary logistic regressions was used to assess the effects of predictor variables. As in the first research question, for each category of predictor variables, logistic regression was conducted. Then, only the significant variables were

entered into the final model.

*Research question 3.* Binary logistic regression was used to examine the effect of job satisfaction on job search behavior, controlling for other predictor variables. All significant predictor variables that were identified during the investigation of the second research question were entered along with overall job satisfaction.

#### Ethical Concerns

With the use of secondary data which has no direct identifiers and characteristics that might lead to identification of data subjects, the proposed study was submitted with a request for exemption to the Institutional Review Board (IRB). The NNAS data and report are publicly available through the NCHS website and it is not necessary to obtain prior permission to use the data. However, its use is restricted only for the purpose of statistical analyses and reporting. NCHS further requires that researchers not use the data to learn the identity of any person or establishments and report to the director of NCHS if they discover any identifiers (DHHS, 2007b).



## CHAPTER IV

### RESULTS

This chapter presents the results of each step of data analyses that was conducted in the following manner. First, descriptive characteristics of all study variables were examined to gain a preliminary understanding of the dataset. Distributions, outliers, and patterns of missing data were reviewed and addressed. Bivariate analyses were then conducted to examine the relationships between and among the five categories of predictor variables (i.e., job resources, job demands, personal resource, personal demands, and demographic characteristics) and two dependent variables (i.e., job satisfaction and job search behavior). Subsequent to the bivariate analysis, multicollinearity among predictor variables was examined in order to ensure that the data met the assumptions necessary for logistic regression. The results of these preliminary analyses determined the predictor variables included in the initial models for the multivariate analysis. Then, a series of multivariate logistic regression analysis was conducted to examine predictors of job satisfaction and job search behavior.

#### Descriptive Analyses of the Data

##### *Demographic Characteristics*

Table 4.1 presents demographic characteristics of a sample of 2,897 CNAs for the current study. The standard error reflects the error in estimating the population size from the sample size. Females comprised the majority of the total sample (92%). Average age was 38.7 years old. Participants ranged in age from 16 to 65 years. The variable was slightly positively skewed with

over 65% of participants being under 45 years of age. In order to understand job behavior of specific age groups, age was categorized into three subgroups (less than 30, 30-44, and over 45).

More than half of the workers in the sample were White (53%), with African Americans accounting for 39%. The “other” category (8%) included American Indians, Alaska natives, Asians, Native Hawaiians, and Pacific Islanders. Less than 10% of the total sample was of Hispanic or Latino origin. Approximately 9% were not United States citizens. The majority (51%) of participants were married or living with a partner. More than 70% had a high school or post high school education. Nearly 55% of the sample had been NAs for six or more years and 31% had been in their current nursing home job for six or more years.

Table 4.1

*Demographic Characteristics of Employed CNAs (N = 2,897)*

Variables	N	Weighted Size	Weighted %	SE
Age ( <i>M</i> = 38.70)	2,897	680,846		0.34
<29	989	199,118	29.25	0.01
30 - 44	1,044	243,635	35.78	0.01
45+	864	238,093	34.97	0.01
45 – 59	(724)	(197,327)	(28.98)	(0.01)
60+	(140)	(40,766)	(5.99)	(0.01)
Gender				
Female	2,677	628,484	92.31	0.01
Male	220	52,362	7.69	0.01
Race				
White	1,769	362,694	53.27	0.02
Black	917	264,107	38.79	0.02
Other	211	54,045	7.94	0.01

Table 4.1 (*continued*)

Variables	<i>n</i>	Weighted Size	Weighted Percent	<i>SE</i>
Hispanic or Latino origin	288	64,188	9.43	0.01
Hispanic or Latino	2,586	610,543	89.67	0.01
Not Hispanic or Latino	23	6,115	0.90	0.002
Missing				
Citizenship				
U.S. citizen	2,684	614,758	90.29	0.01
Non U.S. citizen	197	61,589	9.05	0.01
Missing	16		0.66	0.002
Marital status				
Married/living with partner	1,472	346,873	50.95	0.01
Separated/divorced/ Widowed	626	151,032	22.18	0.01
Never married	780	177,796	26.11	0.01
Missing	19	5,145	0.76	0.002
Education level ( <i>M</i> = 11.92 years)				
<12y	859	198,732	29.19	0.01
12y	1,306	306,757	45.06	0.01
Post high school	707	167,771	24.64	0.01
Missing	25	7,586	1.11	0.003
Number of work hours/week ( <i>M</i> = 36.88 hours)				
Full time (40+ hours)	1,472	354,273	52.26	0.02
Part time (<40 hours)	1,414	323,668	47.74	0.02
Missing	9	2,905	0.43	0.002
Total experience as a NA				
<2y	688	130,847	19.22	0.01
2 – 5y	775	178,031	26.15	0.01
6 – 10y	545	130,519	19.17	0.01
10+y	881	239,951	35.24	0.01
Missing	8	1,498	0.22	0.001

Table 4.1 (*continued*)

Variables	<i>n</i>	Weighted Size	Weighted %	<i>SE</i>
Time worked at sampled facility ( <i>M</i> = 59.33 months)				
<2y	1,523	281,613	41.36	0.01
2 – 5y	618	180,120	26.46	0.01
6 – 10y	319	89,672	13.17	0.01
10+y	371	114,102	16.76	0.01
Missing	66	15,339	2.25	0.004

*Description of the Dependent Variables*

Table 4.2 presents the study sample size, weighted percent, and standard errors for the dependent variables, job satisfaction and job search behavior. Approximately 82% of participants reported that they were satisfied with their current job. As described in Chapter 3, in order to address small subgroup sizes, “Somewhat dissatisfied” and “Extremely dissatisfied” were combined to create a “Dissatisfied” category. Also for the job research behavior variable, the responses of “No, but thinking about it” were collapsed into the “Not looking for a job” category, creating a “Not actively looking for a job” category. Less than one-fourth (24%) of CNAs were actively looking for an alternative job.

Table 4.2

*Descriptive Statistics of Dependent Variables (N = 2,897)*

Variables	<i>n</i>	Weighted Size	Weighted %	<i>SE</i>
Job Satisfaction				
Extremely satisfied	845	207,118	30.42	0.01
Somewhat satisfied	1,467	348,880	51.24	0.01
Dissatisfied*	576	122,325	17.97	0.01
Somewhat dissatisfied	(452)	(97,501)	(14.32)	(0.01)
Extremely dissatisfied	(124)	(24,824)	(3.65)	(0.004)
Missing	9	2,523	0.37	0.001
Job search behavior				
Currently looking for a job	745	163,937	24.08	0.01
Not actively looking for a job*	2,133	512,974	75.34	0.01
Not looking for a job	(2, 024)	(487,539)	(71.61)	(0.01)
No, but thinking about it	(109)	(25,435)	(3.74)	(0.005)
Missing	19	3,935	0.58	0.002

*Note:* \*A new category was created by combining the two original categories.

Strong correlation existed between the measures of job satisfaction and job search behavior ( $\chi^2(2) = 324.43, p < .001$ ), as shown by the distribution of observations in Table 4.3. While 52.97% (303/572) of dissatisfied workers were looking for an alternative job, 89.43% (753/842) of extremely satisfied workers were not actively looking for a job.

Table 4.3

*Relationship between job satisfaction and job search behavior*

Job satisfaction	Looking for a different job		Total
	No	Yes	
Dissatisfied	269 (424)*	303 (148)	572
Somewhat Satisfied	1,108 (1082)	351 (377)	1,459
Extremely Satisfied	753 (624)	89 (218)	842
Total	2,130	743	2,873

Note: \*Expected counts.

*Description of the Predictor Variables*

*Job resources.* Table 4.4 provides descriptive statistics of job resource variables. For dichotomous variables, only one category is reported. Although not listed in the table, in order to understand the amount of missing values in each variable, the analyses included subjects for whom there may be missing data for the predictor variables. Overall, participants positively reported regarding available resources at institutional, work task, and interpersonal levels. Nearly 70% of CNAs ( $n = 1,965$ ) reported perceived respect and reward for their work. Almost half of them ( $n = 1,331$ ) also reported that their work is very much valued and appreciated by administration. The average hourly wage was \$10.42. Wages ranged from \$2.00 to \$25.00. As will be discussed later, the issue of outliers with this variable was addressed. Majority of participants received benefits. Almost 90% of them ( $n = 2,513$ ) reported that health insurance is available at work. Over 66% ( $n = 1,846$ ) agreed that initial training prepared them for the job well and 77% ( $n = 2,195$ ) reported that they had a helpful mentor or buddy for the first job.

Majority of CNAs (65%,  $n = 1,804$ ) were paid or offered training or continuing education classes. Lifting devices were always available for 86% of workers ( $n = 2,508$ ). On the other hand, lack of availability of other equipment or devices were reported by over 15% of participants ( $n = 480$ ).

CNAs reported high degrees of autonomy in decision making. Almost 90% of them ( $n = 2,613$ ) were able to decide how to do their own work and 85% ( $n = 2,487$ ) felt that they were trusted to make care decisions. In addition, 91% of them ( $n = 2,641$ ) reported involvement in challenging work and 80% ( $n = 2,314$ ) had a chance to gain new skills or knowledge.

Participants favorably reported the practices of their supervisors. Mean of index of supervisor quality was 5.29. More than half of participants felt that their supervisor greatly valued or appreciated their work ( $n = 1,583$ , 55%) and respected them as a part of team ( $n = 1,650$ , 58%). Over 80% ( $n = 2,412$ ) agreed that they had opportunities to work in teams and nearly 50% ( $n = 1,272$ ) reported that they frequently or sometimes ask for help from other NAs.

Overall, CNAs had positive relationships with residents and their family members. A majority of them perceived that they were highly respected by residents ( $n = 2,124$ , 72%) and residents' families ( $n = 1,874$ , 62%) as part of health care team. In addition, over 70% ( $n = 2,122$ ) felt that their work was recognized by residents always or most of the time.

Table 4.4 *Descriptive Statistics of Job Resource Variables (N = 2,897)*

Variables	Weighted %	SE
Institutional level		
Administrative climate		
Respected/rewarded for work (strongly/somewhat agree = 1)	68.11	0.01
Valued/appreciated for work (very much = 1)	46.85	0.01
Salary and benefits		
Hourly wages	<i>M</i> = \$10.42	0.10
Paid sick leave (1 = yes)	70.65	0.01
Paid holidays off (1 = yes)	72.49	0.01
Health insurance available (1 = yes)	89.69	0.01
Training		
Initial training prepared NA to work (1 = well-prepared)	66.19	0.01
Had a helpful mentor or buddy for first job (1 = yes)	77.37	0.01
Paid for or offered training or continuing education classes (1 = yes)	65.16	0.01
Facility resources		
Availability of lifting devices (1 = always)	86.80	0.01
Lack of availability of other equipment or devices (1 = yes)	15.65	0.01
Work task level		
Autonomy in decision making		
Able to decide how to do own work (1 = strongly/somewhat agree)	88.86	0.01
Perceived trust to make resident care decisions (1 = strongly/somewhat agree)	85.17	0.01
Opportunity for self-advancement		
Involvement in challenging work (1 = strongly/somewhat agree)	90.53	0.01
A chance to gain new skills/knowledge (1 = strongly/somewhat agree)	81.12	0.01



Table 4.4 (*continued*)

Variables	Weighted %	SE
Interpersonal level		
Supportive supervisory practices		
Index of supervisor quality (range 1-10)	$M = 5.29$	0.09
Supervisor values or appreciates NA's work (1 = very much)	55.23	0.01
Perceived respect from supervisors as part of the health care team (1 = great deal)	58.01	0.01
Peer support		
Opportunity to work in teams (1 = strongly/somewhat agree)	82.68	0.01
Frequency of asking help from other NAs (frequently/sometimes = 1)	45.18	0.01
Positive interactions with residents and their families		
Perceived respect from residents as part of health care team (1 = great deal)	72.40	0.01
Perceived respect from residents' families as part of the health care team (1 = great deal)	61.67	0.01
Perceived recognition from residents (1 = always or most of the time)	72.11	0.01

*Job demands.* Table 4.5 provides descriptions of job demand variables. Among structural demands, participants most frequently reported lack of continuous assignment ( $n = 1,527$ , 52%), followed by mandatory overtime ( $n = 622$ , 22%). Relatively small numbers of CNAs reported having problems with schedules ( $n = 125$ , 4%) and with new rules or procedures ( $n = 102$ , 5%). Among physical demands, work-related injuries and not enough time for assistance with ADLs ( $n = 1245$ , 43%) and other work ( $n = 1248$ , 43%) were frequently reported. In particular, 56% of participants ( $n = 1,670$ ) indicated that they had one or more work-related injuries in the past year. The most frequently reported emotional demand was problems with coworkers ( $n = 956$ , 30%), followed by problems with supervisors or nurses ( $n = 653$ , 23%).

Interestingly, although half of the participants were minority, relatively small numbers of workers identified lack of respect/appreciation for work ( $n = 350$ , 13%) and racism ( $n = 197$ , 8%) as workplace problems.

Table 4.5 *Descriptive Statistics of Job Demand Variables (N = 2,897)*

Variables	Weighted %	SE
Job demands		
Structural demands		
Ever worked mandatory overtime (1 = yes)	21.71	0.02
Lack of continuous assignment (1 = yes)	52.36	0.02
Problems with schedule (1 = yes)	4.24	0.01
Problems with new rules/procedures (1 = yes)	4.48	0.01
Physical demands		
Work-related injuries in the past year (1 = yes)	56.24	0.01
Not enough time for assistance with ADLs (1 = not enough time)	42.74	0.01
Not enough time for other work (1 = not enough time)	43.21	0.01
Workload issues (1 = yes)	25.63	0.01
Emotional demands		
Lack of respect/appreciation for work (1 = yes)	12.68	0.01
Problems with supervisors or nurses (1 = yes)	23.18	0.01
Problems with coworkers (1 = yes)	29.67	0.01
Perceived racial/ethnic discrimination (1 = yes)	8.18	0.01

*Personal resource.* There was a lack of variability on this variable with 94% of participants ( $n = 2,728$ ) having reported great confidence in their own ability to do their job (see Table 4.6).

*Personal demands.* As presented in table 4.6, 28% of CNAs ( $n = 838$ ) had a child or

children who required child care during work hours. Also, 15% of participants ( $n = 450$ ) were providing informal care for friends or family members. A very small number of participants reported having health or personal issues ( $n = 47$ , 2%). This was at odds with the high number of injury rate.

Table 4.6 *Descriptive Statistics of Personal Resource and Demands (N = 2,897)*

Variables	Weighted %	SE
Personal resource		
Self-confidence to do the job (very much = 1)	94.17	0.01
Personal demands		
Having children requiring child care (yes =1)	27.99	0.01
Caring for family/relative/friend (yes = 1)	15.34	0.01
Health or personal issues (yes = 1)	1.5	0.002

#### Missing Data Analyses

Missing data analysis was conducted to identify patterns of non-response. Overall, very little data was missing on the selected dependent variables and predictor variables. The variable “Having a child/children requiring child care during work hours” ( $n = 98$ , 3.38%) had the highest number of missing values. Other variables with comparatively high missing values included “number of times NA injured at facility” ( $n = 83$ , 2.87%) and “number of months employed in the facility” ( $n = 66$ , 2.28%). The potential impact of missing data was examined using bivariate analyses. No clear patterns were found and it was assumed that the data were missing at random. There were no significant differences in job satisfaction and job search behavior for respondents with missing versus non-missing data. Thus, missing data was handled through listwise deletion of cases that had data missing for any variable in each analysis. However, as comparing coefficients across models require the exact same samples (Long & Freese, 2006), following the

procedures taken by other studies using the data set (e.g., Decker et al., 2009; Stearns & D'Arcy, 2008), cases that had missing for any study variable ( $n = 465$ , 16.05%) were omitted from the multivariate analyses. The final sample was comprised of 2,432 CNAs.

### *Outliers*

In order to determine if there were outliers, stem-and-leaf diagrams and boxplots of hourly wages were examined. The remaining predictors were binary or categorical variables, thus outliers did not influence the independent variables and were therefore not an issue. The visual inspection of the graphs identified a few outliers in hourly wages. As described earlier, the wages ranged from \$2.00 to \$25.00. Given a minimum wage, legitimacy of hourly wages below \$5.00 can be questioned. Thus, five cases below \$5.00 were recoded as missing. Then, the variable was transformed using log transformation to reduce the impact of high wages.

### Bivariate Analyses of Predictor and Dependent Variables

Bivariate analyses were conducted to explore the relationship among the predictor variables (job and personal resources, job and personal demands, and demographic characteristics) and dependent variables (job satisfaction and job search behavior). Predictor variables that were not significantly related to at least one of the dependent variables were omitted from subsequent analyses. A liberal  $p$  value ( $p < .10$ ) was used to more inclusively identify possibly related variables. Weighted data were used as ignoring the weights affects the results (Lee & Forthofer, 2006). The variables that did not have a significant relationship with job satisfaction include availability of health insurance ( $F(2, 1090) = 0.32, p = .728$ ), frequency of asking help from other NAs ( $F(2, 1102) = 1.35, p = .260$ ), lack of continuous assignment ( $F(2, 1084) = 2.15, p = .118$ ), gender ( $F(2, 1035) = 0.95, p = .384$ ), Hispanic ( $F(2, 1059) = 1.45, p = .235$ ), race ( $F(4, 2156) = 0.91, p = .456$ ), education level ( $F(4, 2179) = 1.40, p = .236$ ), and

citizenship ( $F(2, 1053) = 0.84, p = .429$ ). These variables were not included in the analysis for the first research question.

Variables that were not significant to job search behavior include, helpfulness of initial training ( $F(1, 551) = 0.64, p = .424$ ), having a helpful mentor for the first job ( $F(1, 551) = 0.11, p = .745$ ), frequency of asking help from other NAs ( $F(1, 551) = 0.45, p = .500$ ), workload issues ( $F(1, 551) = 1.79, p = .181$ ), problems with coworkers ( $F(1, 551) = 0.04, p = .842$ ), caring for family/relative/friend with a disability ( $F(1, 551) = 0.114, p = .735$ ), perceived recognition from residents ( $F(1, 551) = 0.456, p = .181$ ), mandatory overtime ( $F(1, 551) = 2.15, p = .118$ ), health and personal issues ( $F(1, 551) = 1.04, p = .308$ ), and citizenship ( $F(1, 551) = 0.12, p = .734$ ). These variables were not included in the analysis for the second and third research questions. Although confidence in own ability was not significantly related to job search behavior ( $F(1, 551) = 1.57, p = .211$ ), it was included in the initial model because of its theoretical importance. The variables that were not significant to both dependent variables (i.e., frequency of asking help from other NAs and citizenship) were excluded from subsequent analyses.

### *Multicollinearity*

The final screen for logistic regression entailed the issue of multicollinearity. Multicollinearity is a concern due to the sensitivity of logistic regression analysis to correlation in independent variables (Mertler & Vannatta, 2005). As a preliminary screening for logistic regression, a multicollinearity test was conducted. The Variance Inflation Factor (VIF) and the tolerance (F) scores were calculated in order to ensure that multicollinearity did not influence variance, leading to incorrect conclusions regarding the relationships between variables. As a rule of thumb, tolerance scores below 0.2 and the VIF scores above 10 were of concern (Mertler & Vannatta, 2005). The tolerance scores for this analysis ranged from .338 to .978 and the VIF

ranged from 1.02 to 2.96. Thus, multicollinearity did not appear to be a significant issue. The results of bivariate analysis also supported this conclusion. The highest correlation was found between index of supervisor quality and perceived appreciation from supervisors ( $r = 0.6251$ ,  $p < .001$ ) and it was below .80 which is considered to be very problematic (Licht, 1997).

### Analyses of Research Questions

#### *RQ1: Predictors of Job Satisfaction*

For the first research question, a series of multinomial logistic regression analyses were performed to determine how job demands and resources, personal demands and resources, and demographic characteristics predicted the levels of job satisfaction among CNAs (extremely satisfied, somewhat dissatisfied, and dissatisfied). First, for each of the five categories of predictor variables, separate multinomial logistic regression analyses were conducted. Then, using only the predictors that were significant at 5% level in the respective models, final multinomial regression analysis was conducted. In all models, the somewhat satisfied group constituted the reference category and estimated relative risk ratios (RRR) were presented for the dissatisfied and extremely satisfied groups. Particular interest was to identify job and personal factors that distinguish CNAs with the lowest and highest job satisfaction. RRR more than 1.0 indicated an increase in odds, and those less than 1.0 indicated a decrease in odds of being in the lower or higher satisfaction group compared with the somewhat satisfied group.

*Job resource model.* Table 4.7 presents the results of multinomial logistic regression analysis between job resources and job satisfaction. The model was significant ( $F(42, 510) = 10.40$ ,  $p < .0001$ ). The results indicated that different job resource variables were associated with low and high job satisfaction, except a chance to gain new skills/knowledge that was significant across the models. CNAs who reported having such opportunity were more likely

to be in the groups with greater job satisfaction. Comparing the dissatisfied and somewhat satisfied groups, CNAs who did not perceive that they were respected or rewarded for work ( $t = -3.33, p = .001$ ) and who did not have opportunities to work in teams ( $t = -3.25, p = .001$ ) were more likely to be dissatisfied. In addition, comparing the extremely satisfied to the somewhat satisfied groups, CNAs who perceived that their work was valued and appreciated ( $t = 6.24, p < .001$ ), who scored higher in index of supervisor quality ( $t = 5.32, p < .001$ ), and who perceived respect from residents as part of the health care team ( $t = 2.69, p = .007$ ) were more likely to be extremely satisfied.

Table 4.7

*Multinomial Logistic Regression for CNA Job Satisfaction – Job Resources*

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
Institutional level						
Respected/rewarded for work	0.54**	.001	0.38, 0.78	1.56	.054	0.99, 2.45
Valued/appreciated for work	0.71	.087	0.48, 1.05	2.58***	<.001	1.91, 3.48
Initial training helped NA prepare	1.06	.748	0.75, 1.51	1.33	.073	0.97, 1.80
Work task level						
Perceived trust to make resident care decisions	0.65	.055	0.42, 1.01	0.62	.093	0.36, 1.08
Involvement in challenging work	0.69	.084	0.45, 1.05	1.25	.580	0.56, 2.78
A chance to gain new skills/knowledge	0.57**	.002	0.40, 0.81	2.00*	.017	1.13, 3.54
Interpersonal level						
Index of supervisor quality	0.94	.059	0.89, 1.00	1.18***	<.001	1.11, 1.26
Opportunity to work in teams	0.55**	.001	0.38, 0.79	1.13	.645	0.67, 1.89

Table 4.7 (continue)

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
Perceived respect from residents as part of health care team	0.92	.667	0.64, 1.33	1.68**	.007	1.15, 2.46

*Notes:* Somewhat satisfied is a referent group. Only variables  $p < .10$  are shown. RRR = relative risk ratio; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Job demands.* Table 4.8 presents the results of multinomial logistic regression analysis between job demands and job satisfaction. The model was significant ( $F(22, 530) = 12.15, p < .0001$ ). Among structural demand variables, only having problems with new rules/procedures was a significant predictor of being in the somewhat satisfied group rather than in the extremely satisfied group ( $t = -2.22, p = .027$ ). All physical demand variables (getting injured, not having enough time for work, and having workload issues) were significant predictors of decreased level of satisfaction. CNAs who reported these physical demands were more likely to be in the dissatisfied group and less likely to be in the extremely satisfied group. Two emotional demand variables, having problems with supervisors and perceiving racial/ethnic discriminations, were also common predictors of CNAs being in the less satisfied groups. Moreover, CNAs who reported perceived lack of respect or appreciation for work were more likely to be in the dissatisfied group than in the somewhat satisfied group ( $t = 3.54, p < .001$ ).



Table 4.8

*Multinomial Logistic Regression for CNA Job Satisfaction – Job Demands*

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95%CI	RRR	Sig.	95%CI
Structural demands						
Problems with new rules/procedures	0.82	.625	0.37, 1.83	0.29*	.027	0.09, 0.87
Physical demands						
Work-related injuries in the past year	1.84**	.001	1.30, 2.61	0.67**	.005	0.51, 0.88
Not enough time for assistance with ADLs	1.72**	.001	1.24, 2.40	0.57**	.001	0.40, 0.80
Not enough time for other work	1.51*	.016	1.08, 2.11	0.63**	.005	0.46, 0.87
Workload issues	1.36*	.048	1.00, 1.85	0.64*	.012	0.46, 0.91
Emotional demands						
Lack of respect/appreciation for work	2.15***	< .001	1.40, 3.28	0.66	.138	0.38, 1.14
Problems with supervisors or nurses	1.94***	< .001	1.38, 2.73	0.52**	.001	0.36, 0.76
Problems with coworkers	0.82	.197	0.61, 1.11	0.78	.089	0.58, 1.04
Perceived racial/ethnic discrimination	1.72*	.024	1.07, 2.74	0.37***	<.001	0.21, 0.67

*Notes:* Somewhat satisfied is a referent group. Only variables  $p < .10$  are shown. RRR = relative risk ratio; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Personal resource and demands.* Separate multinomial logistic regression was conducted for personal resource and personal demand (see Table 4.8). Job resource model was significant ( $F(2, 550) = 4.93, p = .0075$ ). CNAs who had confidence in their own abilities to do the job were more likely to be in the extremely satisfied group than in the somewhat satisfied group ( $t = 3.05, p = .002$ ). Personal demand model was also significant ( $F(6, 546) = 5.15, p < .0001$ ). Providing care for family/relative/friend ( $t = 2.45, p = .015$ ) and having health or

personal problems ( $t = 2.08, p = .038$ ) predicted being in the dissatisfied group. Having children requiring child care ( $t = -2.73, p = .007$ ) was a significant predictor of being in the somewhat satisfied group against the extremely satisfied group. These results indicated that different personal variables determine the likelihood of being dissatisfied or satisfied with the job.

Table 4.9

*Multinomial Logistic Regression for CNA Job Satisfaction – Personal Resource and Demands*

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
Personal resource						
Confidence in own ability	1.06	.853	0.56, 2.00	3.52**	.002	1.57, 7.90
Personal demand						
Having children requiring child care	1.26	.108	0.95, 1.68	0.66**	.007	0.49, 0.89
Caring for family/relative/friend	1.57*	.015	1.09, 2.26	0.93	.656	0.67, 1.29
Health or personal issues	2.45*	.038	1.05, 5.72	0.51	.333	0.13, 2.00

*Notes:* Somewhat satisfied is a referent group. RRR = relative risk ratio; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Demographic variables.* Table 4.10 presents the results of multinomial logistic regression analysis between job satisfaction and demographic characteristics. The model was significant ( $F(22, 530) = 3.16, p < .0001$ ). Being separated/divorced/widowed predicted being in the dissatisfied group against the somewhat group ( $t = 4.461, p < .001$ ). However, it also predicted being in the extremely satisfied group against the somewhat satisfied group ( $t = 2.18, p = .030$ ). Fulltime CNAs were more likely to be in the somewhat satisfied group than in the

dissatisfied group ( $t = -2.21, p = .027$ ). CNAs older than 29 years of age were more likely to be in the extremely satisfied group. Those who had six to 10 years of experience as a NA were more likely to be in the somewhat satisfied group than in the extremely satisfied group ( $t = -2.11, p = .036$ ). However, since the Wald chi-square for the overall contribution of the profession length was not significant ( $\chi^2 (6) = 7.3, p = .286$ ), this variable was not included in the final job satisfaction model.

Table 4.10

*Multinomial Logistic Regression for CNA Job Satisfaction - Demographic Characteristics*

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
Age						
<29	Referent					
30-44	1.21	.322	0.83, 1.76	1.63**	.004	1.17, 2.27
45+	1.09	.728	0.68, 1.72	1.80**	.004	1.20, 2.69
Marital status						
Married/living with partner	Referent					
Separated/divorced/ Widowed	2.22***	<.001	1.56, 3.15	1.44*	.030	1.04, 2.01
Never married	1.11	.577	0.77, 1.61	1.05	.761	0.76, 1.47
Full time	0.73*	.027	0.55, 0.96	1.01	.947	0.78, 1.31
Total experience as NA						
<2y	Referent					
2 – 5y	1.02	.917	0.65, 1.61	0.97	.868	0.65, 1.28
6 – 10y	1.08	.750	0.66, 1.76	0.64*	.036	0.80, 1.89
10+y	0.90	.675	0.55, 1.48	0.74	.187	0.95, 2.28

Table 4.10 (*continue*)

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95%CI	RRR	Sig.	95%CI
Time worked at facility						
<2y	Referent					
2 – 5y	0.98	.912	0.66, 1.45	0.91	.595	0.67, 1.40
6 – 10y	0.83	.484	0.50, 1.39	1.23	.349	4.16, 0.97
10+y	0.82	.468	0.49, 1.39	1.47	.083	0.47, 1.16

*Notes:* Somewhat satisfied is a referent group. RRR = relative risk ratio; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Final model.* All variables that were identified as significant predictors of job satisfaction were entered simultaneously into the final model. The initial model was significant ( $F(46, 508) = 11.33, p < .0001$ , McFadden's Adjusted  $R^2 = 0.256$ ). Then, the researcher attempted to build the most parsimonious model that still explains the data. Removing any insignificant variable from the initial model resulted in an increase in Akaike's information criterion (AIC) and decrease in McFadden's Adjusted  $R^2$ , indicating poorer fit of the new model. However, the general rule of model selection based on AIC is that a difference of the two AIC values is considered insignificant if it is less than one (Hurvich & Tsai 1989). Thus, in order to build an optimal model, the change in AIC value was examined when each insignificant value was excluded from the initial model. With this criterion, three variables (i.e., having problems with supervisor, having child with care needs, and full-time status) that had the smallest impact on AIC among insignificant variables were eliminated. These variables collectively increased AIC by 0.992 points. The final model was significant ( $F(38, 514) = 12.57, p < .0001$ , McFadden's Adjusted  $R^2 = 0.254$ ).

As presented in table 4.11, among job resource variables, feeling respected/rewarded for

work, rating higher scores on index of supervisor quality, and having a chance to gain new skills/knowledge predicted higher level of job satisfaction. In addition, CNAs who reported having opportunity to work in teams were less likely to be in the dissatisfied group ( $t = -3.17, p = .002$ ). Perceived appreciation for work ( $t = 6.39, p < .000$ ) and perceived respect from residents ( $t = 2.85, p = .002$ ) predicted being in the extremely satisfied group. As a group, job resource variables were the best predictors of job satisfaction. When they were dropped from the final model, McFadden's Adjusted  $R^2$  changed by 12.5%.

Examination of job demand variables identified that CNAs who reported work-related injuries ( $t = 2.78, p = .006$ ) and perceived lack of respect ( $t = 3.73, p < .001$ ) were more likely to be in the dissatisfied group. CNAs who reported not having enough time for ADLs assistance ( $t = -2.08, p = .038$ ) and for other work ( $t = -2.57, p = .011$ ) were more likely to be in the somewhat dissatisfied group rather than in the extremely satisfied group. Personal resource and personal demands were not significant predictors of level of job satisfaction. As a group, job demands accounted 3.6% of the change of McFadden's Adjusted  $R^2$  in the model. Only two demographic variables were significant. CNAs older than 29 years of age were more likely to be extremely satisfied with their job while separated/divorced workers were more likely to be dissatisfied ( $t = 3.60, p < .001$ ). As a group, demographic variables accounted 0.8% of change in McFadden's Adjusted  $R^2$ .

Table 4.11

*Reduced Multinomial Logistic Regression for CNA Job Satisfaction*

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
<b>Job resources</b>						
Respected/rewarded for work	0.52**	<.001	0.36, 0.74	1.68*	.030	1.05, 2.70
Values/appreciated for work	0.69	.060	0.47, 1.02	2.62***	<.001	1.95, 3.52
A chance to gain new skills/knowledge	0.51***	<.001	0.36, 0.72	1.95*	.020	1.11, 3.43
Index of supervisor quality	0.93*	.017	0.88, 0.99	1.19***	<.001	1.13, 1.26
Opportunity to work in teams	0.56**	.002	0.39, 0.80	0.90	.887	0.53, 1.53
Perceived respect from residents as part of health care team	0.73	.087	0.51, 1.05	1.70**	.005	1.18, 2.45
<b>Job demands</b>						
Problems with new rules/procedures	0.75	.421	0.37, 1.52	0.39	.163	0.10, 1.47
Work-related injuries in the past year	1.70**	.006	1.17, 2.47	0.76	.070	0.57, 1.02
Not enough time for assistance with ADLs	1.33	.116	0.93, 1.91	0.67*	.038	0.46, 0.98
Not enough time for other work	1.38	.068	0.98, 1.96	0.64*	.011	0.46, 0.90
Workload issues	1.35	.073	0.97, 1.86	0.70	.052	0.49, 1.00
Lack of respect/appreciation for work	2.12***	<.001	1.43, 3.14	0.95	.876	0.53, 1.71
Perceived racial/ethnic discrimination	1.35	.228	0.83, 2.20	0.57	.108	0.28, 1.13
<b>Personal resource</b>						
Confidence in own ability	1.62	.156	0.83, 3.19	1.77	.157	0.80, 3.93
<b>Personal demand</b>						
Caring for family/relative/friend	1.48	.051	1.00, 2.20	0.81	.259	0.55, 1.17
Health or personal issues	2.13	.091	0.89, 5.11	0.61	.394	0.19, 1.91

Table 4.11 (*continued*)

Predictors and effects	Dissatisfied vs. Somewhat satisfied			Extremely satisfied vs. Somewhat Satisfied		
	RRR	Sig.	95% CI	RRR	Sig.	95% CI
Demographic characteristics						
Age						
<29	Referent					
30 – 44	1.09	.618	0.77, 1.54	1.46*	.024	1.05, 2.02
45+	0.96	.861	0.62, 1.48	1.58*	.016	1.09, 2.29
Separated/divorced/ Widowed	2.09***	<.001	1.40, 3.13	1.29	.148	0.91, 1.83

*Notes:* Somewhat satisfied is a referent group. RRR = relative risk ratio; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### *RQ2: Job Search Behavior*

For the second research question, a series of binary logistic regression analyses were performed to determine how job demands and resources, personal demands and resources, and demographic characteristics predicted job search behavior of CNAs (looking vs. not looking). First, for each of five categories of predictor variables, separate binary logistic regression analyses were conducted. Then, using only the predictors that were significant at 5% level in the model of each predictor category, final binary regression analysis was conducted.

*Job resources.* Table 4.12 presents the results of binary logistic regression analysis between job resources and job search behavior. The model was significant ( $F(19, 533) = 6.23, p < .0001$ ). Respected/rewarded for work ( $t = -3.14, p = .002$ ), hourly wages ( $t = -3.26, p = .001$ ), a chance to gain new skills/knowledge ( $t = -2.10, p = .036$ ), and index of supervisor quality ( $t = -2.13, p = .034$ ) were significantly contributed to the model. CNAs who felt respected/rewarded for work, earning higher hourly wages, had a chance to gain new skills/knowledge, and received quality supervision were less likely to be actively looking for a new job.

Table 4.12

*Logistic Regression for CNA Job Search Behavior – Job Resources*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Intercept	3.374	0.798			<.001	1.81, 4.94
Institutional level						
Respected/rewarded for work	-0.465**	0.148	9.83	0.63	.002	-0.76, -0.17
Hourly wages	-1.007**	0.308	10.66	0.37	.001	-1.61, -0.40
Work task level						
A chance to gain new skills/knowledge	-0.353*	0.168	4.40	0.70	.036	-0.68, 0.02
Interpersonal level						
Index of supervisor quality	-0.059*	0.028	4.53	0.94	.034	-0.11, -0.00

*Notes:* Only variables  $p < .10$  are shown. Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Job demands.* Table 4.13 presents the results of binary logistic regression analysis between job demands and job search behavior. The model was significant ( $F(9, 543) = 6.31, p < .0001$ ). Problems with schedule ( $t = 2.37, p = .018$ ), lack of respect/appreciation for work ( $t = 2.96, p = .003$ ), problems with supervisors or nurses ( $t = 3.12, p = .002$ ), and perceived racial/ethnic discrimination ( $t = 3.62, p = .001$ ) were significantly contributed to the model. CNAs who reported problems with schedule, perceived lack of respect or appreciation for work, problems with supervisors or nurses, and perceived racial/ethnic discrimination were more likely to be looking for a new job.



Table 4.13

*Logistic Regression for CNA Job Search Behavior – Job Demands*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95% CI
Intercept	-1.646	0.135			<.001	-1.92, -1.37
Structural demands						
Problems with schedule	0.756*	0.336	5.61	2.12	.018	0.13, 1.38
Problems with new rules/procedures	0.379	0.132	1.28	1.46	.259	-0.28, 1.04
Physical demands						
Work-related injuries in the past year	0.132	0.156	0.99	1.14	.321	-0.13, 0.39
Not enough time for assistance with ADLs	0.117	0.153	0.57	1.12	.451	-0.19, 0.42
Not enough time for other work	-0.010	0.179	0.00	0.99	.947	-0.31, 0.29
Emotional demands						
Lack of respect/appreciation for work	0.529**	0.144	8.74	1.70	.003	0.18, 0.88
Problems with supervisors or nurses	0.450**	0.221	9.74	1.57	.002	0.17, 0.73
Perceived racial/ethnic discrimination	0.800***	0.140	13.12	2.23	<.001	0.37, 1.23

*Notes:* Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Personal resource and demands.* Separate binary logistic regression was conducted for personal resource and personal demand (see Table 4.14). Personal resource model was not significant, while personal demand model was significant ( $F(1, 551) = 10.63, p = .0012$ ). CNAs who had children requiring child care while they work were more likely to look for another job.

Table 4.14

*Logistic Regression for CNA Job Search Behavior – Personal Resource and Demands*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Personal resource						
Intercept	-0.640	0.266			.016	-1.16, -0.12
Confidence in own ability	-0.514	0.273	3.55	0.60	.060	-1.05, 0.02
Personal demand						
Intercept	-1.259	0.078			<.001	-1.41, -1.11
Having children requiring child care	0.430***	0.131	10.63	1.53	.001	0.17, 0.69

Notes: Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Demographic variables.* Table 4.15 presents the results of binary logistic regression analysis between job search behavior and the identified demographic. The model was significant ( $F(17, 535) = 5.02, p < .0001$ ). Age ( $F(2, 550) = 3.29, p < .038$ ), race ( $F(2, 550) = 6.10, p < .002$ ) and length of employment at facility ( $F(3, 549) = 4.19, p < .006$ ) were significantly contributed to the model. There was a higher likelihood of actively engaging in job search among Black, and separated/divorced/Widowed. On the other hand, CNAs who were over 45 years old and worked more than 10 years at the sampled facilities were less likely to be looking for a new job. The effect of interaction among race and marital status was tested, but it was not significant ( $t = 1.23, p = 0.219$ ).

Table 4.15

*Logistic Regression for CNA Job Search Behavior - Demographic Characteristics*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Intercept	-0.785	0.214			<.001	-1.21, -0.36
Age			3.29		.038	
<29	Referent					
30-44	-0.188	0.170		0.83	.269	-0.52, 0.15
45+	-0.535*	0.213		0.59	.012	-0.95, -0.12
Male	0.348	0.204	2.89	1.47	.090	-0.05, 0.75
Hispanic	-0.429	0.225	3.65	0.65	.057	-0.87, 0.01
Race			6.10		.002	
White	Referent					
Black	0.452**	0.131		1.62	.001	0.19, 0.71
Other	-0.356	0.266		1.00	.894	-0.56, 0.49
Marital status			2.58		.077	
Married/living with partner	Referent					
Separated/divorced/Widowed	0.347*	0.173		1.51	.046	0.01, 0.69
Never married	-0.090	0.161		0.84	.575	-0.41, 0.23
Time worked at facility			4.19		.006	
<2y	Referent					
2 – 5y	-0.260	0.171		0.78	.130	-0.60, 0.08
6 – 10y	-0.317	0.233		0.77	.174	-0.78, 0.14
10+y	-0.947***	0.268		0.43	<.001	-1.47, -0.42

Notes: Only variables  $p < .10$  are shown. Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Final model.* Identified predictors of job search behavior were entered into the final model. The initial model was significant ( $F(12, 540) = 11.91, p < .0001$ , McFadden's Adjusted  $R^2 = 0.106$ ). Same as the job satisfaction model, removing any insignificant variable from the initial model resulted in increase in AIC and decrease in McFadden's Adjusted  $R^2$ ,

indicating poorer fit of the new model. However, in order to build a simpler model, the rule of “less than one change in AIC is insignificant” was applied. Consequently, three variables (i.e., having problems with supervisor, having child with care needs, and hour wages) that had the smallest impact on AIC among insignificant variables were eliminated. These variables collectively increased AIC by 0.766 points. The final model was significant ( $F(9, 543) = 16.24$ ,  $p < .0001$ , McFadden's Adjusted  $R^2 = 0.103$ ).

As presented in table 4.16, all job resources were negatively related to job search behavior while all job demands were positively related. CNAs who reported perceived respect, having a chance to gain new skills/knowledge, and scored higher on index of supervisor quality were less likely to be looking for a new job. Collectively, job resources accounted for 3.8% for the change of McFadden's Adjusted  $R^2$  when they were dropped from the full model. CNAs who reported problems with schedule, perceived lack of respect, and perceived racism were more likely to be looking for a new job. In particular, having problems with schedule was a strong predictor; the odds of being engaged in job search increased by 136.0%, holding all other variables constant. Overall, job demand variables accounted 1.4% for the change of McFadden's Adjusted  $R^2$  in the model. CNAs who were over 45 years old and who worked at the facility for more than 10 years were less likely to look for another job. The odds of not looking for another job were 2.58 times larger for CNAs who had over 10 years of experience at the facility than those who had less experience. On the other hand, Black CNAs were more likely to be looking for a new job. The effects of interactions between Black and perceived racism and between age and length of employment were tested, but were not significant. Collectively, demographic variables accounted for 3.1% of the change of McFadden's Adjusted  $R^2$  when they were dropped from the final full model. Neither personal resource nor personal demand variables remained in

the final model.

Table 4.16

*Reduced Logistic Regression for CNA Job Search Behavior*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Intercept	-0.172	0.168			.306	-0.50, 0.16
Job resources						
Respected/rewarded for work	-0.510**	0.147	12.01	0.60	.001	-0.80, -0.22
A chance to gain new skills/knowledge	-0.496**	0.157	9.94	0.61	.002	-0.81, -0.19
Index of supervisor quality	-0.066**	0.021	9.60	0.93	.002	-0.11, -0.02
Job demands						
Problems with schedule	0.859**	0.282	9.24	2.36	.002	0.30, 1.41
Lack of respect/appreciation for work	0.391*	0.188	4.32	1.48	.038	0.02, 0.76
Perceived racial/ethnic discrimination	0.636**	0.229	7.69	1.89	.006	0.19, 1.09
Demographic characteristics						
45+ years old	-0.443*	0.160	7.67	0.64	.006	-0.76, -0.13
Black	0.414**	0.135	9.47	1.51	.002	0.15, 0.68
10+ y working at facility	-0.946***	0.237	15.94	0.38	<.001	-1.41, -0.48

Notes: Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*RQ3: Predictors of Job Search Including Job Satisfaction*

For the third research question, binary logistic regression analysis was performed to determine how job satisfaction predicted job search behavior, after controlling for the effects of resource, demand, and demographic variables. All the variables that were found to be significantly related to job search behavior in the previous analysis were entered into the initial model. The initial model was significant ( $F(11, 541) = 14.94, p < .0001$ , McFadden's Adjusted  $R^2 = 0.135$ ). As the same with previous models, dropping insignificant variables resulted in

increase of AIC and decrease of McFadden's Adjusted  $R^2$ . However, following the AIC rule, two variables (Index of supervisor quality and perceived lack of respect) that had small impacts on ACI were dropped. By excluding these variables, AIC of the model increased by 0.467 points. The final model was significant ( $F(9, 543) = 17.77, p < .0001$ , McFadden's Adjusted  $R^2 = 0.134$ ).

The study hypothesis was partially supported as only job related variables and demographic variables predicted job search behavior. No personal related variables were retained in the final model. As presented in table 4.17, while job satisfaction and job resources were negatively related to job search, job demands were positively related. Job satisfaction was the strongest predictor, accounting for 4.0% of change in McFadden's  $R^2$ . The more CNAs were satisfied, more likely they were to stay. Changes in McFadden's  $R^2$  of job resource, job demands, demographic variables were 0.8%, 0.7%, and 2.7% respectively, suggesting demographic characteristics are more powerful predictors of job search than job resources and job demands.

Table 4.17

*Logistic Regression for CNA Job Search Behavior*

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Intercept	0.268	0.179			.135	-0.08, 0.62
Job satisfaction			28.35		<.001	
Dissatisfied	Referent					
Somewhat satisfied	-0.969***	0.139		0.38	<.001	-2.19, -1.26
Extremely satisfied	-1.726***	0.252		0.18	<.001	-0.78, -0.13
Job resources						
Respected/rewarded for work	-0.377**	0.143	6.92	0.69	.009	-0.66, -0.10
A chance to gain new skills/knowledge	-0.321*	0.160	4.01	0.73	.046	-0.64, -0.01

Table 4.17 (*continue*)

Predictors and effects	Coeff.	SE	Wald	AOR	Sig.	95%CI
Job demands						
Problems with schedule	0.751**	0.279	7.23	2.11	.007	0.20, 1.30
Perceived racial/ethnic discrimination	0.573*	0.237	5.83	1.77	.016	0.11, 1.04
Demographic characteristics						
45+ years old	-0.454**	0.164	7.68	0.63	.006	-0.78, -0.13
Black	0.404**	0.139	8.43	1.50	.004	0.13, 0.68
10+ y working at facility	-0.886***	0.252	12.32	0.41	<.001	-1.38, -0.39

Notes: Coeff. = regression coefficient; AOR: adjusted odds ratio; Wald = Wald's chi-square; Sig. = significance; CI = confidence interval.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Summary

This chapter provided results of the analyses testing three research questions, addressing if five categories of predictor variables predict job satisfaction and job search behavior. The first step in exploring the relationships between predictor variables and a dependent variable involved running the five separate models for each predictor category. Then, only the significant variables were entered into the final model.

For the job satisfaction model, job resources had the most explanatory power, followed by job demands and demographic characteristics. Individually, personal resource and demand variables were significant predictors of job satisfaction. However, when they were entered into the final model, their effects were no longer significant. Among job resources, variables related to administrative climate (institutional level), opportunity for self-advancement (work task level), supportive supervisory practices, peer support, and positive interactions with residents (interpersonal level) remained significant in the final model. Tangible resources such as salary and benefits, training and education, and facility equipments were not significant predictors of job satisfaction. Among job demand variables, all variables related to physical demands

significantly and negatively predicted job satisfaction. No variables related to structural demands were significant, while one emotional demand variable, lack of perceived respect, predicted job dissatisfaction. Only two demographic characteristics remained significant: Older workers were more satisfied while those who were separated, divorced, or widowed were less satisfied with their job.

For the job search behavior model, job resources had the most explanatory power, followed by demographic characteristics and job demands. While job resources decreased the likelihood of being engaged in job search, job demands increased it. Individually, one personal variable, having children requiring care, was a significant predictor of job search behavior. However, it did not remain significant in the final model. Job resource variables that predicted job satisfaction were also significant predictors of job search behavior. CNAs who reported respectful administrative climate (institutional level), opportunity for self-advancement (work task level), supervisor quality (interpersonal level) were less likely to search for a new job. Again, tangible resources were not related to job search behavior. For job demand variables, perceived lack of respect/appreciation for work (emotional demand) was a common predictor of job satisfaction and job search behavior. Another emotional demand variable, perceived racial/ethnic discrimination predicted job search behavior but not levels of job satisfaction. On the other hand, unlike job satisfaction, no physical demand variables were predictive of job search. One structural demand variable, problems with scheduling, positively predicted job search behavior. In addition, three demographic characteristics remained significant in the final model: over 45 years old, Black, and over 10 years of experience at the facility.

When the job satisfaction variable was entered into the final job search behavior model, two variables became insignificant: supervisor quality and perceived lack of respect/appreciation



for work. McFadden's  $R^2$  and AIC indicated that adding job satisfaction built the better model of predicting job search behavior. In the final model, job satisfaction had the strongest explanatory power of job search behavior, followed by demographic characteristics, job resources, and job demands. The findings of this study did not support the role of personal resources and demands in determining job attitudes and behavior of CNAs working in nursing homes. Discussion of the findings and implications for research, practice, and policy will follow in Chapter 5.

## CHAPTER V

### DISCUSSION

The purpose of this study was to explore how job and personal resources and demands and demographic characteristics predict job satisfaction and job search behavior of CNAs working in nursing homes. High turnover and the shortage of CNAs are becoming a great concern for quality of long-term care. In order to effectively address workforce issues, it is important for administrators and policy makers to understand what factors drive these workers to decide to leave their jobs. By applying the Job Demands-Resources (JD-R) model, this study aimed to identify what aspects of CNAs' jobs should be enhanced or modified in order to increase their job satisfaction and job retention. In addition, by attempting to investigate the impact of personal factors on CNA work behavior, the study attempted to expand the literature. Using the first nationally representative database, the National Nursing Assistant Survey (NNAS) increased generalizability of the study findings. Also, its large sample size allowed the simultaneous examination of many predictor variables.

CNAs in this study reported high levels of job satisfaction. Of 2,897 CNAs, 80% reported extremely satisfied or somewhat satisfied. Not surprisingly, CNAs who expressed dissatisfaction were more likely to be looking for a new job than those who were satisfied. Overall, 24% of CNAs were actively looking for a new job. Descriptive statistics indicated that CNAs reported more job resources than job demands. This finding is consistent with the study of Brannon et al. (2007) in which direct care workers perceived the negative aspects of their work to be

problematic considerably less than the degree to which they perceived the positive aspects to be rewarding. However, it is also possible that workers who found their work to be problematic and unsatisfying had already left the job and they were not in the survey.

In this study, most of participants had work task level resources (i.e., autonomy in decision making and opportunity for self-advancement). In particular, over 90% of them reported having an opportunity to get involved in challenging work. On the other hand, CNAs had high physical demands (i.e., work-related injuries, inadequate time for assistance with ADLs and other work, and work overload). The majority of CNAs reported work-related injuries (56%). Even though assistive devices for lifting were always available for most of the participants (87%), this finding suggests that additional measures of injury prevention would be necessary.

### *Job Satisfaction*

Resources and demands had effects on job satisfaction in an expected direction. Job and personal resources increased the odds of CNAs being more satisfied while job and personal demands decreased the odds. Although these findings supported the JD-R model, personal resource and demand variables were not significant in the final model, suggesting that they were not as important in predicting job satisfaction as were other variables. In the final model, as a group, job resources had the strongest relationship with the outcome, followed by job demands and demographic characteristics.

There were several interesting findings in the job satisfaction model. First, unlike the previous studies using the NNAS (Bishop et al., 2009; Decker et al., 2009), this study did not find wages and benefits as significant predictors of job satisfaction. This was probably due to differences in the sample sizes and variables selected for the analyses. While the final sample size of this study was 2,432, Bishop et al. (2009) used data on 2,252 workers. Moreover, in their

analyses, Bishop et al. used some variables from the National Nursing Home Survey while Decker did not examine the effects of workplace related variables in the NNAS. It is possible that interactions with other variables in the model lead to the different results. In addition, from selecting variables to be included in the study to choosing appropriate data analysis methods, the researcher frequently made subjective decisions based on literature and experts' opinions. This subjectivity might have lead to variability of results.

Although wages and benefits were not significant predictors, such findings do not necessarily mean that they are not important for CNAs. When their effects were examined individually, they were positively related to job satisfaction. Rather, what the final job satisfaction model indicates is that perceived respect and appreciation as well as positive interpersonal relationships at work are more important for CNAs to feel satisfied with their job. CNAs who felt that the organizations respect and value their work, had quality supervision, had opportunity to work in teams, and felt respected from residents as part of the health care team were more likely to be satisfied. In contrast, perceived lack of respect increased the odds of CNAs being dissatisfied with the job. The odds of being dissatisfied relative to being somewhat satisfied are 2.12 times greater for CNAs reported lack of respect than for those who did not report, holding all other variables constant. In addition, although they were not significant in the final model, problems with supervisors or nurses and perceived racial/ethnic discriminations were related to lower satisfaction in the individual model.

These findings are in line with previous studies that demonstrated the significance of respectful working environment and interpersonal relationships for CNAs. Studies reported that CNAs find a sense of reward and a joy through close interactions with residents (Dodson & Zincavage, 2007; Pfefferle & Weinberg, 2008). Having good social support from supervisors and

colleagues also enhance their commitment to work and increase job satisfaction (Bishop et al., 2009; Kemper et al., 2008; Noelker et al., 2006; Parsons et al., 2003). On the other hand, disrespectful behavior and attitudes of administrators, supervisors, residents, and family members lead to resentment and job dissatisfaction (Berdes & Eckert, 2001; Dodson & Zincavage; Ejaz et al., 2008). As employees doing challenging work, CNAs need respect (Chichin, Burack, & Bogin, 2001/2002). Higher wages and better fringe benefits may be necessary to recruit CNAs, but once employed, they want to feel valued by the organization and society (Weiner et al., 2009).

Second, physical demand variables (i.e., work-related injury and not enough time for ADLs assistance and other work) predicted lower job satisfaction. This confirms prior research that found nursing staff workload is significantly related to emotional exhaustion and negative job experience (Chapell & Novack, 1992; Ramírez et al., 1998). The NNAS does not provide information on staffing levels, number of residents CNAs are assigned, or the level of assistance needed by residents. However, it is possible that given the persistent inadequate staffing levels in long term care facilities, these CNAs provide care for a large number of residents and have intense responsibility. Overworked workers may be more at risk of getting injured. Also, they may not have enough time to interact with individual residents in attending to quality care and even quality of life concerns. There were also no data collected on the nature of the relationship between CNAs and the residents with whom they work. Consequently, physical exhaustion and lack of emotional rewards may lead to lower job satisfaction.

Third, having a chance to gain new skills and knowledge predicted greater job satisfaction. The odds of being extremely satisfied compared with being somewhat satisfied are 1.95 times greater for CNAs who reported having such opportunities than for those who did not

report, holding all other variables constant. This is consistent with the findings of Ejaz et al. (2008). CNAs' jobs are often described as dead-end, with limited opportunity for advancement. In the focus groups conducted by Bullock and Waugh (2004), CNAs described experiencing barriers to advancement and great frustration with career development. Thus, having an opportunity for self-advancement may increase their commitment to care work. In addition, acquiring new skills and knowledge might help CNAs work more effectively and efficiently, thus reducing or helping them better cope with physical and emotional demands.

Finally, with respect to the demographic variables, only age and marital status were directly linked to job satisfaction. Older workers were more satisfied. Compared to younger workers, CNAs who were older than 45 years were more likely to be in the extremely satisfied category than the somewhat satisfied category. On the other hand, CNAs who were separated, divorced, or widowed were less satisfied with their jobs. Older workers who have more experience as a NA might have lower or more realistic expectations of care work than younger workers. Also, they may be more skilled in dealing with workplace issues, thus they may experience less stress in daily work lives. Moreover, because of their life experiences, they may be more patient and caring toward residents and be able to have more positive caregiving relationships. On the other hand, CNAs who were separated, divorced, or widowed might have more personal and financial responsibilities with more limited social support networks. They may be more dissatisfied with pay and benefits and unsupportive administrative practices such as inflexible scheduling.

#### *Job Search Behavior*

In the job search behavior model, job resources had the most explanatory power, followed by demographic characteristics and job demands. Job resources decreased the odds of

being engaged in job search while job demands increased the odds. Only one personal variable, having children requiring child care was significant in the individual model. However, it did not remain significant when other variables were entered in the final model.

Most of the variables in the job satisfaction model held similar associations to job search behavior. For example, as in the job satisfaction model, perceived respect and good interpersonal relationships were more important in determining CNAs' job search behavior than pay and benefits. CNAs who reported perceived respect/reward for work and higher supervisor quality were less likely to be looking for another job while those who reported perceived lack of respect and racial/ethnic discrimination were more likely to be engaged in job search. Although hourly wages were negatively related to job search in the individual model, it was not significant in the final model. Other common variables in job satisfaction and job search models included an opportunity for self-advancement and older age. CNAs who had a chance to gain new skills/knowledge and who were over 45 years old were less likely to be looking for a new job.

There were also several noteworthy differences in the two models. First, based on adjusted odds ratio, problems with scheduling was the most important predictor of job search behavior. This finding suggests that especially for female CNAs who have children and other dependants, having flexible schedules that could help them accommodate their family responsibilities might be an important determinant of job retention. It also raises the possibility that some CNAs may be working more than one job to make ends meet, something not asked in this survey. When that is the case, scheduling is critical in being responsible to more than one employer.

Second, unlike in the job satisfaction model, physical demands were not significant predictors of job search. It indicates that when CNAs experience physical demands, their level of

job satisfaction decreases. However, such experience would not immediately drive CNAs to start looking for a new job. Rather, emotional stress inflicted by disrespectful working environments were more important in their decisions to leave the job.

Finally, there were two demographic variables unique to job search behavior: Being Black and being employed for more than 10 years at the facility. The odds of looking for another job were 1.51 times larger for Black CNAs than for White and other minority CNAs, holding all other variables constant. Black CNAs may be more frequently encountering unfair treatment or disrespectful behavior at work. For example, in the study of Dodson and Zinbarg (2007), Black CNAs complained that they have heavier workloads than White CNAs because of the unequal work assignments. Jervis (2002) also found that Black CNAs think White nurses who supervise them are racists. Such racial experiences may motivate Black CNAs to look for a better working environment. As for the length of employment, it makes sense that CNAs with a longer tenure were less likely to leave since they are probably more committed to the job.

The differences in predictors of job satisfaction and those of job search behavior indicate that job satisfaction and job search behavior are similar, but different constructs. When the job satisfaction variables were entered into the job search behavior model, supervisor quality and perceived lack of respect lost their significance. In the final model, job satisfaction was the most important predictor of job search, followed by demographic characteristics, job resources, and job demands. These findings are in line with prior nursing home studies that identified that the level of job satisfaction determines intention to leave and actual turnover (Karsh et al., 2005; Kiyak et al., 1997; Parsons et al., 2003).

Although they were significant, the effect sizes for both job resources and job demands were quite small. This is probably due to the fact that job satisfaction and job search behavior



have a few common predictors. Among those variables remaining in the final model, two job resource variables (respected/rewarded for work and a chance to gain new skills/knowledge) and one demographic variable (over 45 years old) predicted both job satisfaction and job search behavior. Thus, in the final model, the influence of these predictor variables is probably partially explained by job satisfaction. Because of the interactions, their effects on job search became smaller once job satisfaction was entered in the model. Nevertheless, the findings underscore the importance of perceived respect at work in determining job search behavior. CNAs who felt unrespected/unrewarded and perceived racism were more likely to be looking for a new job. Problems with scheduling and less than 10 years of experience working at the facility also greatly increased the odds of searching for another job.

#### Limitations of the Study and Implication for Future Research

There are several notable limitations to this study. Most of these limitations are directly related to the nature of secondary data analysis. First, as discussed in Chapter 3, the NNAS did not use established, reliable measurements. There are many better established measures of job satisfaction, intent to leave, work environment, and other related variables that could have been used. For example, the NNAS used a single item scale to measure job satisfaction. On the other hand, the General Job Satisfaction Scale (GJS), which has been widely used in the occupational research consists of the following five items: Generally speaking, I am very satisfied with this job; I frequently think of quitting this job; I am generally satisfied with the kind of work I do in this job; Most people on this job are very satisfied with the job; and People on this job often think of quitting (Hackman & Oldham, 1975).

The problem with measurement validity may have affected the results of this study. For example, although no personal resource and demand variables were found to be significant in the

final models, it is possible that the scales utilized in the NNAS did not appropriately capture the concepts. Self-efficacy was measured by a single item and that was the only personal resource variable included in this study. This may explain the inconsistency of the findings with prior studies that identified that personal resources, particularly self-efficacy contribute to worker experience of and reaction to job demands (Barak, Levin, Nissly, & Lane, 2006). The future study needs to include more personal variables relevant to CNAs, such as self-confidence, self-esteem, stress-coping styles, and the prior caregiving experiences. Furthermore, the NNAS did not use the JD-R model or any other conceptual models to design the study. Hand picking variables that appear to fit the framework of JD-R model from the survey questionnaire was not the best method to test the model, but the only option open to this researcher given what was available. The application of a conceptual framework based on theoretical and empirical literature as well as the use of multiple indicators or established scales would have increased study reliability and validity.

In fact, quality and accuracy of the NNAS data has been questioned by the American Health Care Association and National Center for Assisted Living (AHCA/NCAL). AHCA pointed out that the results of the NNAS, which is based on self-reported data, contradict published federal data. For example, while the NNAS indicated high injury rates (close to 60%), public data show injury rates of CNA is approximately 20%. It is important to point out however that public injury data are determined by those injuries/accidents officially reported . The data in this study come directly from CNAs who do their jobs on a daily basis and may not always report minor injuries that occur in the course of their work. The vast discrepancy between these datasets raises the question as to how many injuries go unreported and for what reasons.

AHCA also expressed concerns that the results of the NNAS are misleading and not up-

to-date (Lehman, 2009). It is difficult to judge which data present a more accurate picture of this workforce since government data may be underreported and since the sources of the data are different. However, the statement given by AHCA (Lehman) suggests that some of the research methods used by the NNAS, such as giving incentives to the survey participants to increase response rates and using stratified sampling to obtain representative data are perceived as coercing participants and skewing the facts. In order to answer their questions and concerns, future research could invite these professional organizations into the planning and data collection processes and ask for their cooperation and understanding. Such collaborative relationships would help obtain more useful data for both advocates and policy makers to promote quality work lives of direct care workforce. On the other hand, concerns about the reliability and validity of these data may subintentionally reflect perspectives that established information systems maintained by professionals are more valuable than self reports from a diverse group of paraprofessionals. Being careful to recognize biases that subjugate the voices of women and minorities such as CNAs who responded to this survey is critically important.

Another limitation is that the NAAS did not include items that were found to affect job attitudes and behavior of CNAs in prior studies. For example, although the survey included CNAs' assessment of supervisor quality, it lacked similar information on quality of coworker environment and relationships with residents. Since the findings of this study identified the significance of interpersonal relationships for CNAs, further assessment would be worth serious consideration. Future studies can also measure personal aspects of CNAs that may affect work outcomes such as attitudes toward aging and older people, coping styles, and prior experiences of informal caregiving.

Also, as discussed in Chapter 3, since the research design of the NNAS is cross-sectional,

definitive causal relationship between predictor variables and the outcomes cannot be established. Although intention to leave and job search behavior are good indicators of actual turnover (Kiyak et al., 1997; Mobley et al. 1978), not all workers who express a desire to leave the organization will actually act on their intent. For example, Castle and colleagues (2007) did not find the relation between intention to leave among NAs and turnover a year later. Of course, given the nature of the job market and high unemployment, it may be that CNAs who intend to leave are not able to find work elsewhere and they do not have the option of quitting their current positions. Future research would benefit from utilizing longitudinal data to examine predictors of actual turnover. Also, future research could focus on job retention, rather than turnover. Most studies on CNAs have focused on why they left or what made them think about leaving their jobs. Only a few studies have systematically assessed why some workers continue to stay while others leave (Secrest et al., 2005). Having a better understanding of factors motivating CNAs to stay on their jobs would help enhance job resources and promote job retention.

There are also some limitations more specific to the current analysis. Missing data may have led to biased coefficient estimates. In addition to 120 CNAs who left the facility before the data collection, 465 workers were excluded from the analyses because they have missing values in the variables of interest. Although the data were found to be missing at random, loss of information might have affected the study findings. Some information in the data was also lost because many ordinal and continuous level variables were dichotomized for the ease of interpretations of the analyses. Furthermore, although this study used multivariate logistic analyses, the use of structural equation modeling (SEM) should be considered to test the utility of the JD-R model. SEM allows for the simultaneous evaluation of entire models that include multiple indicators and dependent variables. It also allows latent variables to behave as both

independent and dependent variables in the same model, which make it possible to test a variety of hypotheses (Kelloway, 1998).

In summary, there are strengths and limitations in using a secondary database over which the researcher has little control in the beginning. The tradeoff is whether to collect one's own data with limited resources and small sample sizes or whether to benefit from the large respondent base made possible by a large, funded, national survey. It is important to find ways for scholars to participate in the design and development of these national surveys so that they are conceptually sound. In addition, a strength of accessing this database was that it did not require a complicated approval process and was easily available to scholars for their use, yet there was no one source at the national level that was tracking those researchers who were actually conducting studies based on this dataset. Certainly one does not want to control what researchers do nor place restrictions on their interrogation of the data, but it would seem important to be able to tell other researchers who inquire about the dataset who is currently working on its analysis. It behooves the researcher to search out those interdisciplinary colleagues around the country who are simultaneously engaged in the data analysis process.

#### Implications for Practice and Policy

Despite these limitations, the findings of this study provide directions for strategies to facilitate job satisfaction and job retention among CNAs. This study suggests that interventions targeting the enhancement of job resources, particularly creating a respectful working environment that fosters positive interpersonal relationships are key to increase job satisfaction and job retention. With the trends of culture change in long-term care, a variety of intervention models to build a foundation of respect have been developed and implemented. Some models focus on enhancing collegial relationships and teamwork through peer mentoring and support

groups (Hageman et al., 2003; Wilner, 1994). Others focus on leadership training for senior level management and frontline supervisors (Kemper, Brannon, Barry, Stott, & Heier, 2008). Initiative efforts like Better Jobs Better Care (BJBC) apply these different models and seek to achieve changes in long-term care policy and practice across the country (BJBC, 2007; Kemper et al.).

One of the major goals of culture change is to transform long term care institutions into communities (Misiorski & Kahn, 2005). Through collaborative decision making, continuous assignment, organizational redesign, and supportive leadership practices, culture change aims to change the hierarchal nursing home system to a more empowering, respectful environment. Although its effectiveness has not been well investigated, culture change holds potential to make CNA jobs more attractive, satisfying, and engaging. In particular, having their concerns and solutions heard, acknowledged, addressed, and incorporated into organizational reform can be an important incentive for CNAs to remain employed (Crickmer, 2005). In addition, establishing a more comfortable and respectful workplace will help CNAs to work more capably to meet the emotional and psychological needs of individual residents.

The process of individual and institutional transformations requires flexibility, commitment, openness, and creativity on the part of the institution and everyone involved in care (BJBC, 2007). In fact, studies have reported many obstacles for culture change such as resistance to change, conflicting interests, and lack of cooperation and interests among staff (Kemper et al., 2008; Rosen et al., 2005). Since there is no “one size fits all” approach to create a respectful and supportive workplace, each organization first needs to carefully examine the problems and explore the best way to intervene through facilitating open dialogue among stakeholders and listening to everyone’s perspectives and needs.

This study also identified particularly important two factors influencing CNAs that can

be incorporated into culture change efforts. They are issues related to quality of supervision and racism. First, positive assessment of supervisor was found to be a significant determinant of job satisfaction. CNAs who felt their supervisors are respectful, helpful, and supportive were more likely to be satisfied. However, recent research demonstrated challenges for nurses to provide quality supervision, including lack of formal supervisory training in nursing programs, unclear expectations for the supervisory role, and lack of support from management (Siegel et al., 2008). Offering continuing education and training on effective supervision may help these nurses to improve their supervisory skills and consequently increase job satisfaction of CNAs. In fact, Grace et al. (2003) reported support groups and interactive online training sessions for supervisors were effective in increasing intrinsic job satisfaction of NAs.

The second issue which needs specific attention is racism. The findings of this study identified the negative effects of perceived racial and ethnic discrimination on CNAs. While it was not related to the levels of job satisfaction, perceived racism predicted job search behavior. In order to address prejudice and promote mutually respectful relationships, it is essential to have open dialogue on race, culture, and class in a supportive and safe environment. By sharing individual experiences and concerns, CNAs from different cultural backgrounds will be able to identify their similarities and develop common understandings about the issues. Improved communication among CNAs will also enhance their ability to work together and positively influence the working environment (Wadensten, Engström, & Häggström, 2009).

Some of the long-term care organizations now invite residents to in-service trainings focused on interpersonal respect and cultural competency (BJBC, 2007). Through engaging in role-plays and discussion, CNAs and residents exchange ideas of how others could show respect and disrespect to them. Open dialogue and improved communication between workers and

residents might not only change their attitudes and stereotypes, but also could build a genuine sense of community (BJBC). These efforts for creating a respectful workplace may lead to greater job satisfaction and job retention, and consequently to ensuring adequate staffing levels in nursing homes. In turn, stable staffing can reduce physical demands, improve resident care, and increase job satisfaction.

### Contribution to Social Work

This study provides several implications for the field of social work. Social workers are one of many professions involved in nursing home care. By collaboratively working with other professional and paraprofessional workers, social workers can contribute to the quality of work life of CNAs, thus consequently improve the quality of care in nursing homes (Chichinn et al, 2001/2002). Care worker issues in long-term care reflect the dynamics of inequalities in society. The issue concerns social justice, sexism, and ageism. Given its complexity, it requires well-articulated and integrated interventions. With its expertise and knowledge in group work, policy making, and research, there are many different ways social work can make a significant contribution in advocating for CNAs and facilitate changes in the current working conditions in nursing homes.

For example, in order to support the process of cultural change, social workers can encourage communication among CNAs' by forming focus groups. Sharing concerns with co-workers will allow them to develop solidarity, leading to collective efforts to advocate for their rights and desired institutional changes. Also, social workers can invite CNAs to participate in meetings at organizational and community levels and invite their inputs in policy development. Such opportunities will help CNAs to learn about their work from the bigger, macro perspective and foster their sense of self-worth and efficacy within context.



Social workers can also participate in collective action to influence health care and labor policies and achieve economic and social justice in the long-term care industry. Although not in the nursing home care, Donovan and colleagues (1993) described a collaborative project jointly undertaken by a school of social work and a labor union for home care workers. The school first conducted research to identify the demographic characteristics and the health and social needs of union members. Building on the research findings, it then established a union-based social assistance program to address individual needs in the areas of housing, child care, and family issues. At the same time, the union used research data as a foundation for collective bargaining, legislative action, and public education. In the end, the project positioned the union to successfully negotiate for more state funding for home care resulting in increased wages and basic health benefits for workers.

CNAs face challenging work responsibilities and many are looking for other job opportunities. Social workers may be helpful in establishing career ladder programs in which CNAs may be able to access formal education in community colleges that train licensed practical nurses or universities that have registered nursing or even BSW programs. If relationship building is important to CNAs (and it appears to be from this study's findings) then perhaps there are opportunities for CNAs to remain in these settings in which they do quality work and move to other positions over the course of their careers.

These cases indicate that by working at multiple levels, social work can fulfill its dual commitment to social services and social change (Donovan et al., 1993). By responding to individual voices and incorporating them into policy reform efforts, social work can effectively promote social and economic justice for these neglected and often invisible, but critically important workers in supporting the long-term care system.

An additional contribution that this research could make is to educate social work students and social workers regarding the critical issues affecting quality of long-term care. Social work is a profession concerned with helping vulnerable individuals, groups, and communities to enhance their individual and collective well-being. In particular, its practice emphasizes respect toward social and cultural diversities, social justice, and human rights. As described in Chapter 1, nursing home care reflects inequalities based on gender, race, ethnicity, social class, and various other aspects of society. Although there are clear differences in their racial and social backgrounds, both care providers and consumers are predominantly women in economically, physically, and emotionally vulnerable conditions. Care workers frequently experience racism in their daily interactions with residents, coworkers, and supervisors. Particularly immigrant workers express resentment toward others' xenophobic behavior (Ryosho, in press).

The findings of this study indicated that perceived lack of respect, racial discrimination, and physical demands CNAs face and their negative effects on their work behavior, which probably contribute to low quality of care, negative caregiving relationships, and low quality of life. However, the experiences of these marginalized groups of women have not always been well represented in social work dialogue. The role of social work in long-term care settings have not been well-defined and research on nursing home social work is still limited (Beaulieu, 2002). There should be more dialogue on the role of social workers in advocating for direct care workers and creating a system where every person involved in care is treated with respect and human dignity.

### Conclusion

As the elderly population in the United States continues to grow, maintaining a well-

qualified direct care workforce may become even more difficult in the future. The results of this study showed that fostering a culture of respect in interpersonal relationships and organizational practices would help increase job satisfaction and reduce turnover among CNAs. These findings offer a call to action for administrators and policy makers to support and promote interdisciplinary and multi-level approaches to build the nursing home environment that is respectful and responsive to human needs of everyone involved in care. Such efforts will consequently lead to better care and better quality life for millions people.

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